

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Examination of the Different Methods  
For  
Collecting Survey Data Using Electronic Mail  
And the  
World Wide Web

Allan Smee

1999

Research Report Presented in Partial Fulfilment of the  
Requirement for the Degree of Masters of Business Studies  
Massey University

## **ABSTRACT**

The phenomenal growth of the Internet and World Wide Web means this medium offers great potential as a survey research medium. This study examined the use of E-mail and the Internet as methods for delivering questionnaires, and tested methods of overcoming the limitations associated with e-mail methodology. These included various components of mail, e-mail, and hyperlink to the Internet. The study examined the effect of these options on survey response rate, speed of response, and data quality.

## **ACKNOWLEDGEMENTS**

I would to thank my supervisor Mike Brennan for his patience and support during this research report. His assistance and knowledge is greatly appreciated, along with his helpful comments. I would also a like to thank, Janet Hoek my adviser for her assistance and insight, Ben Healey and Terry Macpherson from the Department of Marketing for the technical knowledge, use of their computers and for the checking of the online questionnaire. I would also like to thank staff of the Department of Marketing who have supported me in various ways and have provided an excellent learning environment which was also thought provoking and challenging.

I would especially like to thank Raewyn Fortes for her assistance in editing and deciphering my dyslexic notes. Without her assistance I would have never been able to complete this report, she has my undying gratitude.

Finally I would like to thank my family for putting up with me during the years I have spent at university.



# TABLE OF CONTENTS

ABSTRACT.....	I
ACKNOWLEDGEMENTS.....	II
TABLE OF CONTENTS.....	III
LIST OF TABLES.....	VI
LIST OF FIGURES.....	VI
1 INTRODUCTION.....	1
2 LITERATURE REVIEW .....	4
2.1 BASIC DESIGN CONSIDERATIONS FOR EMAIL QUESTIONNAIRES .....	4
2.2 BASIC DESIGN CONSIDERATIONS FOR WEB BASED QUESTIONNAIRES .....	5
2.3 TAXONOMY OF WEB BASED QUESTIONNAIRES .....	8
2.3.1 <i>HTML forms based questionnaires</i> .....	9
2.3.2 <i>Computer Assisted Web Interviewing questionnaires</i> .....	14
2.4 TECHNIQUES USED TO IMPROVE RESPONSE RATES .....	15
2.4.1 <i>Preliminary Notification</i> .....	16
2.4.2 <i>Follow up contacts</i> .....	21
2.4.3 <i>Personalisation</i> .....	23
2.4.4 <i>Incentives</i> .....	25
2.5 POTENTIAL TECHNIQUES FOR IMPROVING RESPONSE RATES IN E-MAIL AND WEB SURVEYS. ....	27
2.6 DATA QUALITY .....	29
2.6.1 <i>Aspects of respondent error</i> .....	30
2.6.2 <i>Closed or Fixed response questions</i> .....	32
2.7 RESPONSE SPEED .....	34
2.8 SUMMARY .....	35
3 RESEARCH OBJECTIVES .....	39
4 METHOD.....	41
4.1 SAMPLE.....	41
4.1.1 <i>Allocation of Sample to treatment groups</i> .....	41
4.2 INSTRUMENT .....	43

4.2.1	Questionnaire Design .....	45
4.3	WEB BASED QUESTIONNAIRE DESIGN.....	45
4.3.1	Layout of web page questionnaire .....	46
4.3.2	Question types and associated fields.....	47
4.4	E-MAIL QUESTIONNAIRE .....	50
4.5	PROCEDURE.....	51
<b>5</b>	<b>RESULTS.....</b>	<b>53</b>
5.1	RESPONSE RATES .....	53
5.2	RESPONSE SPEED .....	54
5.3	DATA QUALITY.....	60
5.4	INCOMPLETE QUESTIONNAIRES.....	61
5.5	COMPLETION TIMES OF QUESTIONNAIRES.....	61
5.6	NUMBER OF WORDS AND IDEAS GENERATE FOR OPEN-ENDED QUESTIONS .....	62
<b>6</b>	<b>DISCUSSION .....</b>	<b>64</b>
6.1	IS THERE A SIGNIFICANT DIFFERENCE IN RESPONSE RATES FOR THE DIFFERENCE TREATMENTS. ....	64
6.2	IS THERE SIGNIFICANT DIFFERENCE IN RESPONSE SPEED FOR THE DIFFERENT TREATMENT GROUPS	65
6.3	RESEARCH QUESTION 4: IS THERE A SIGNIFICANT DIFFERENCE BETWEEN THE LEVELS OF DATA/RESPONSE QUALITY THE DIFFERENCE TREATMENTS.....	66
6.4	INCOMPLETE QUESTIONNAIRES .....	67
6.5	COMPLETION TIMES .....	68
6.6	OPEN END QUESTIONS .....	69
6.7	OTHER ISSUES .....	70
<b>7</b>	<b>CONCLUSIONS .....</b>	<b>71</b>
7.1	CONCLUSIONS .....	71
7.2	LIMITATIONS .....	73
7.3	DIRECTIONS FOR FUTURE RESEARCH.....	74
<b>8</b>	<b>REFERENCES.....</b>	<b>75</b>
<b>9</b>	<b>APPENDICES.....</b>	<b>81</b>
	APPENDIX 1. LIST OF ACADEMIC INSTITUTIONS .....	81
	APPENDIX 2 MAIL QUESTIONNAIRE VERSION 1 AND VERISON 2 .....	82
	APPENDIX 3 E-MAIL QUESTIONNAIRE .....	131
	APPENDIX 4 SINGLE WEB PAGE QUESTIONNAIRE .....	131

APPENDIX 5. MULTIPLE WEB PAGE QUESTIONNAIRE WITH AND WITHOUT VALIDATION.....	147
APPENDIX 6 1 <sup>ST</sup> CONTACT CORRESPONDENCE WITH SAMPLE.....	197
1 <sup>st</sup> contact with treatment group (mail).....	197
1 <sup>st</sup> contact with e-mail treatment group (2).....	198
1 <sup>st</sup> contact for web based questionnaires treatment groups (3, 4 & 5).....	199
APPENDIX 7 2 <sup>ND</sup> CONTACT CORRESPONDENCE WITH SAMPLE .....	200
2 <sup>nd</sup> contact with mail treatment group (1).....	200
2 <sup>nd</sup> contact with e-mail treatment group (2) .....	201
2 <sup>nd</sup> contact with web base treatment groups (3, 4 & 5).....	202
APPENDIX 8 3 <sup>RD</sup> CONTACT CORRESPONDENCE WITH SAMPLE .....	203
APPENDIX 9 3 <sup>RD</sup> CONTACT CORRESPONDENCE WITH SAMPLE .....	204
3 <sup>rd</sup> contact with mail treatment group (1) .....	204
3 <sup>rd</sup> contact with e-mail treatment group (2) .....	205
3 <sup>rd</sup> contact with web based questionnaires treatment groups (3, 4 & 5).....	206
APPENDIX 10. EXAMPLE TEXT AREAS FOR OPEN ENDED QUESTIONS .....	207
APPENDIX 11. ERROR PAGES .....	209

## LIST OF TABLES

TABLE 1. DESCRIPTION OF POSSIBLE HTML INPUT FIELDS .....	9
TABLE 2 RESULTS OF THE WALKER AND BURDICK (1977) STUDY .....	17
TABLE 3. COMMON EXPERIMENTAL DESIGN FOR TESTING OF PRELIMINARY NOTIFICATION. ....	20
TABLE 4. RESPONSE RATE FOR THE GOODSTADT ET AL EXPERIMENT .....	26
TABLE 5. SIZE OF ACADEMIC GROUPINGS .....	42
TABLE 6. ALLOCATION OF SAMPLE TO TREATMENTS .....	43
TABLE 7. TYPE AND NUMBER OF QUESTIONS.....	45
TABLE 8. SIZES OF OPEN-ENDED QUESTION TEXT BOXES IN THE MAIN STUDY.....	47
TABLE 9. RESPONSE RATES FOR MAIN STUDIES .....	53
TABLE 10. CONFIDENCE INTERVALS AT THE 95% LEVEL FOR RESPONSE RATES FOR EACH TREATMENT. ....	54
TABLE 11. RESPONSE SPEED FOR DIFFERENT TREATMENT GROUPS.....	54
TABLE 12. NUMBER OF ERRORS COMMITTED BY RESPONDENTS FOR TREATMENT GROUPS 1-4 .....	60
TABLE 13. OPPORTUNITY FOR ERROR. ....	60
TABLE 14. PERCENTAGE OF THE RESPONDENTS THAT SUBMITTED INCOMPLETE QUESTIONNAIRES.....	61
TABLE 15. COMPLETION TIMES OF TREATMENT GROUPS SINGLE PAGE WEB, MULTIPLE PAGE WEB AND MULTIPLE PAGE WEB WITH VALIDATION .....	62
TABLE 16. RESPONDENTS ESTIMATED COMPLETION TIMES OF THE QUESTIONNAIRE IN THE MAIN STUDY ....	62
TABLE 17. COMPARISON OF NUMBER OF WORDS AND IDEAS GENERATE BETWEEN THE TREATMENT GROUPS .....	63

## LIST OF FIGURES

FIGURE 1. EXAMPLE OF RADIO/OPTION BUTTONS .....	10
FIGURE 2. EXAMPLES OF CHECK BOXES IN SURVEY.....	11
FIGURE 3. EXAMPLE OF A COMBO OR LIST BOX .....	12
FIGURE 4. SKIPPED QUESTION FORMULA.....	49
FIGURE 5. DROP DOWN BOX VALIDATION SCRIPT.....	49
FIGURE 6. CHECK BOX VALIDATION SCRIPT .....	50
FIGURE 7. VALIDATION FOR 'OTHER' OPTION.....	50
FIGURE 8. RESPONSE DISTRIBUTION FOR TREATMENT GROUP 1 (MAIL).....	55
FIGURE 9. RESPONSE DISTRIBUTION FOR TREATMENT GROUP 2 (E-MAIL).....	56
FIGURE 10. RESPONSE DISTRIBUTION FOR TREATMENT GROUP 3 .....	57
FIGURE 11. RESPONSE DISTRIBUTION FOR TREATMENT GROUP 4 (MULTIPLE WEB PAGES) .....	58
FIGURE 12. RESPONSE DISTRIBUTION FOR TREATMENT GROUP 5 .....	59

FIGURE 13. SCREEN SHOT OF QUESTION 1 .....	147
FIGURE 14 SCREEN SHOT OF QUESTION 2 .....	148
FIGURE 15. SCREEN SHOT OF QUESTIONS 2C-2G .....	150
FIGURE 16. SCREEN SHOT OF QUESTION 3 .....	151
FIGURE 17 SCREEN SHOT OF QUESTION 4 .....	152
FIGURE 18. SCREEN SHOT OF QUESTION 5-6 .....	153
FIGURE 19. SCREEN SHOT OF QUESTION 5-6 .....	154
FIGURE 20. SCREEN SHOT OF QUESTION 7 .....	155
FIGURE 21. SCREEN SHOT OF QUESTION 8-9 .....	156
FIGURE 22. SCREEN SHOT OF QUESTION 9C-9G .....	158
FIGURE 23. SCREEN SHOT QUESTION 10 .....	159
FIGURE 24 SCREEN SHOT OF QUESTION 11-12 .....	160
FIGURE 25 SCREEN SHOT OF QUESTION 13-14 .....	161
FIGURE 26. SCREEN SHOT OF QUESTION 15 .....	162
FIGURE 27. SCREEN SHOT OF QUESTION 16-17 .....	163
FIGURE 28. SCREEN SHOT OF QUESTION 18 .....	164
FIGURE 29. SCREEN SHOT OF QUESTION 19-20 .....	165
FIGURE 30. SCREEN SHOT OF QUESTION 21 .....	166
FIGURE 31. SCREEN SHOT OF QUESTION 22-23 .....	167
FIGURE 32 SCREEN SHOT OF QUESTION 24-25 .....	168
FIGURE 33 SCREEN SHOT OF QUESTION 19 .....	170
FIGURE 34. SCREEN SHOT OF QUESTION 27 .....	172
FIGURE 35. SCREEN SHOT OF QUESTION 28 .....	174
FIGURE 36 SCREEN SHOT OF QUESTION 29 .....	175
FIGURE 37. SCREEN SHOT OF QUESTION 30 .....	176
FIGURE 38. SCREEN SHOT OF QUESTION 31 .....	178
FIGURE 39. SCREEN SHOT OF QUESTION 33 .....	180
FIGURE 40. SCREEN SHOT OF QUESTION 34 .....	181
FIGURE 41. SCREEN SHOT OF QUESTION 35A AND B .....	183
FIGURE 42. SCREEN SHOT OF QUESTION 35 C AND D .....	185
FIGURE 43. SCREEN SHOT OF QUESTION 36 .....	186
FIGURE 44. SCREEN SHOT OF QUESTION 37 .....	187
FIGURE 45. SCREEN SHOT QUESTION 38 .....	188
FIGURE 46. SCREEN SHOT QUESTION 39 .....	190
FIGURE 47. SCREEN SHOT QUESTION 40-43 .....	191

FIGURE 48. SCREEN SHOT QUESTION 40-43..... 192

FIGURE 49. SCREEN SHOT QUESTION 48-50 ..... 193

FIGURE 50. SMALL TEXT BOX..... 206

FIGURE 51. JAVASCRIPT CODE FOR TEXT BOX SIZE ..... 206

FIGURE 52. LARGE TEXT BOX AREA..... 207

FIGURE 53. JAVASCRIPT FOR LARGE TEXT BOX AREA ..... 207

FIGURE 54. STANDARD ERROR PAGE ..... 208

FIGURE 55. MISSING OTHER OPTION ERROR PAGE..... 209

# 1 INTRODUCTION

The dramatic increase in the use of the World Wide Web (WWW) and associated browser software has lead to a rapidly increasing use of electronic mail (e-mail) as a means of communication within academia, business and public arenas. The new communication medium has been adopted as a method of conducting survey based research by both academics and commercial researchers.

The use of this new communication medium as a survey delivery method does result in some obvious problems with generalising the results of Internet and e-mail surveys. The first early users of the Internet and e-mail are not representative of the general population, which means the resulting sample is usually biased and includes a disproportionate number of more affluent and better educated respondents. Fortunately, this problem rapidly shows signs of diminishing, as the use of e-mail and the Internet as a method of communication and conducting business continues to increase in acceptance.

The use of e-mail to conduct surveys can be likened to the use of telephone surveys fifty years ago, with only 'early adopters' using the technology. Indications are that the adoption of the e-mail and Internet will be faster, and it is predicted that these will be as commonplace as telephones within the next 5 to 10 years (NUA Internet Surveys 1998).

Although there are some limitations in terms of representativeness, there are a number of potential advantages to collecting data via e-mail. Recent studies indicate that e-mail permits very rapid surveying, and the data collected is of a higher quality in comparison to mail surveys (Bachmann, Elfrink and Vazzana 1996; Metha and Sivadas 1995; Sproull 1986; Tse et al 1994; and Schaefer and Dillman 1998). Another benefit is the cost advantage of e-mail surveys compared to mail based surveys; e-mail virtually eliminates printing and postage costs, and reduces the cost of data entry (Morphew and Williams, 1998; Schaefer and Dillman, 1998).

Remaining issues of concern relate to the survey format, as some researchers have

claimed that e-mail technology imposes limitations on the questionnaire design. (Oppermann 1995). Schaefer and Dillman (1998) and Morphew and Williams (1998) state that questionnaires need to be kept simple because of the different formatting used by different e-mail programs. As a result of these concerns, most studies conducted to date have limited the number of characters per line to 70 to avoid the problem of the text wrapping around to the next line (Oppermann, 1995; Schaefer and Dillman 1995; Morphew and Williams 1998). Because of this problem, the type of scales that can be used is limited, as some will not fit horizontally across the page (Schaefer and Dillman 1998). Parker (1992) noted that e-mail programs only display a limited number of lines at once. This can have two possible effects; firstly, a portion of some of the questions and associated scales or responses may be obscured. Secondly, respondents will have to use the scroll bar to display the next question, which may result in them accidentally skipping questions. Furthermore, a questionnaire is limited to an ASCII format, which prohibits the use of special characters.

Although these formatting issues have potentially important implications for the quality of the data collected, it is now possible to harness additional technology to address them. For example, to overcome the limitations of the e-mail format, it is possible to include a hyperlink (a hyperlink is a word, phrase, or image that, when clicked, "sends" users to another document (text, sound, image, movie)) in the e-mail message. The hyperlink would open the respondent's WWW browser and then a WWW site that contains a questionnaire.

The ability to link to WWW allows the researcher to harness the power of WWW programmes to develop questionnaires which use features such as drop down boxes, option buttons, and check boxes. These features overcome the limitation associated with e-mail questionnaire, especially with regards to scale type questions. The use of web based questionnaires also allows researchers to develop questionnaires which adapt depending on responses received from respondents. Along with an adaptive questionnaire, web based questionnaires can also be developed to verify the responses from respondents.



Another factor associated with e-mail based survey is poor response rates that have been achieved by some researchers using this method. A number of studies have reported lower response rates for e-mail treatments of experimental studies when compared to traditional mail treatments. Most of the research conducted using web based questionnaires currently don't report response rates, as respondents to these surveys are not selected from a fixed population. For example a number of these surveys use banner adverts to attract respondents to the survey or post messages to e-mail user groups, which have an unknown number of users. The use of e-mail as a method of delivery of web based surveys will enable a response rate to be calculated. To overcome the poor response rates it may be possible to take methods that have been proven to work with mail surveys and apply them to e-mail and e-mail with hyperlink to web based questionnaires.

There are a number of issues surrounding the use of e-mail and web based survey methods and it is important that experimental research is conducted to determine the effectiveness of these new methods. It is also necessary to compare these new methods to traditional survey methods such as a mail survey in a controlled experiment. The purpose of this study is to address some of these issues.

## **2 LITERATURE REVIEW**

This literature review examines issues surrounding the development of e-mail and web based questionnaires and their use. The review also examines the methods that have been shown to increase response rates in mail surveys and how they have been applied or could be applied to e-mail based or web based surveys.

### **2.1 Basic Design Considerations for Email Questionnaires**

The use of e-mail based questionnaires is quite wide spread with a number of researchers using this technique. Although a number of researchers have used this method it does have some limitations which can affect its usefulness.

#### *Layout of E-mail Questionnaires*

E-mail programmes have restrictions on the number of characters that can be displayed across the page before the text wraps around the page. The majority of e-mail programmes restrict the number of characters across the page to 70 characters (Oppermann, 1995; Schaefer and Dillman 1995; Morpew and Williams 1998). This restriction affects the way that scales are used, as some will not fit horizontally across the page (Schaefer and Dillman 1998). Likert type scales with 5 or more possible responses may not be displayed on one line. To avoid this problem the scales can be displayed vertically, which sequentially increases the length of any questionnaire.

#### *Type of fonts and characters.*

Although newer e-mail programmes can handle different fonts and special characters, the majority of e-mail programmes can only use limited characters and are unable to display italic and/or bold text (Oppermann, 1995; Schaefer and Dillman 1995; Morpew and Williams 1998). This places limitations on the way that instructions can be differentiated from questions and possible responses within a questionnaire (Morpew and Williams

1998).

### *Submission of completed questionnaire*

Another limitation with the use of e-mail based questionnaires is the requirement that to submit the questionnaire respondents are required to use the reply feature of the e-mail programme. The use of this feature enables respondents to enter their responses in the questionnaire, but this also allows respondents to edit the questionnaire (Bachmann, Elfrink and Vazzana 1996). Any questionnaire will have to be checked to determine if respondents have altered any response options.

## **2.2 Basic Design Considerations for Web Based Questionnaires**

There are a number of design elements associated with the development of World Wide Web (WWW) based questionnaires, and each must be considered. These elements relate to the type and size of font, the colour of the text and Web background, the resolution and screen size, and the type of browser used by the respondent. Each one of these elements can affect the way a respondent views the questionnaire and ultimately, whether they complete it or not.

### *Font*

Since the development of the Internet and WWW a number of studies have been conducted to determine the optimum font and font size that should be used on-line. Most of this research is derived from work conducted on the readability of printed material. Research indicates that the optimum font size should be between 10 and 14 points to ensure that people can read it easily (Tinker, 1965). The case of the font also

has an effect. A typography expert, Wheildon, has found that there is an average increase in comprehension of 30% if both lower and upper case letters rather than all capital letters are used (Wheildon cited in (Antin, 1993), pp. 130). Other researchers have found that the type of font face also has an effect on comprehension. A serif in the font face

makes it more distinctive and clearer to readers than sans serif fonts (Albers 1975 cited in Mullin, 1998). Wheildon has also found that serif upper and lower case fonts are more legible than sans serif fonts (Wheildon cited in (Antin, 1993)). Mullin maintains that the best font to use for a web based survey is Times or Times Roman. This is a serif typeface, common to all Internet/WWW browsers and is normally the default font (Mullin, 1998). While the designer of the questionnaire can determine the type of font face and style, some browsers allow users to overrule the settings, which can cause problems with the layout and design of the questionnaire.

### *Colour*

The researcher can also determine what colour font and background is displayed to respondents using HTML codes. Mullin (1998) recommends the use of colour to emphasise words or phrases which aids in making questionnaires clearer and increases the attractiveness of the questionnaire (Mullin, 1998). Mullin (1998) also recommends that coloured backgrounds can be used to enhance the design of the overall survey. The use of colour in web pages has a number of problems associated with it. Firstly, it is necessary to maintain a strong contrast between the text and background. A minimum of 60% contrast level between the background and text is recommended by Poulton to maintain readability (Poulton 1969 cited in Mullin 1998). Although contrast is important, Wilson (1998) recommends that light text is not used on a dark background because this will reduce the readability of the text (Wilson, 1998). Secondly, it is difficult to tell what type of display is used on the PC. PCs can display anywhere from 16 colours to 32 million colours, this means that some PCs will not be able to display the correct colour. This will result in the PC either displaying the closest colour or use dithering in an attempt to match the colour which could result in contrast problems between the background colour and the text colour (Dreze & Zufryden, 1997).

### *Layout*

Another problem associated with the development of web based questionnaires is the size

of the questionnaire. Unlike paper based questionnaires, where the layout of the question is pre-determined by the size of the paper, the area available for web based questions can vary because of a number of factors. One of the major influences that affect the area displayed to respondents is the resolution of monitors. The resolution of computer monitors can vary from 480 x320 pixels through to 1024 x 768 pixels, and this has an effect on what information is displayed. For example if a web page or questionnaire was designed on a 1024 x 768 monitor and covered all of the screen, all of it could not be displayed on a smaller resolution monitor. To enable all of the page or questionnaire to be displayed a scroll bar would have to be used to allow the users to see the whole page (Wilson, 1998). This means that questionnaire designers must take into account different resolutions. The most common solution is to design for a resolution of 640 x 480, which is the resolution most commonly used. Alternatively, two questionnaires could be designed in both 640 x 480 pixels and 800 x 600 pixels and respondents be given the choice of what resolution they wish to display the survey in (Wilson, 1998).

### *Browsers*

Another problem is that of actual monitor screen size. The size of monitors can vary from 13 inches through to 19 inches and bigger. According to Wilson (1998) the majority of monitors are 14 inches and therefore any web page or questionnaire should be designed with this size in mind (Wilson, 1998).

Another one of the major factors facing the designers of web surveys is the differences in WWW browsers, which displays the information. The development of browsers over a period of time has resulted in some older browsers being incompatible with newer versions (Jaworski, 1997). For example, Netscape version 2 and Internet Explorer version 2 are incompatible with JAVA programs, which can be used for web questionnaires. JAVA programs will not run on these browsers and no information will be displayed. JAVA script was specifically developed to be used over the internet and therefore is less sensitive to the different browsers used by respondents. As the HTML programming language has developed over time some of the newer directives will not run on older

browsers which could result in some features not being available or not functioning properly (Jaworski, 1997). There are two possible solutions to this problem: firstly designing two questionnaires, one for the older browser and one for the newer browsers, and asking respondents to use the appropriate one for them. The second solution is to design a site based on the lowest common features. The second solution is problematic, as some of the features are required to enable the self-checking of a questionnaire.

Each of these elements must be considered when designing a WWW based questionnaire as they can affect the way in which the questionnaire is presented to the respondent. The poor use of different fonts and colours could have an effect on the completion rate of survey and effect the respondent's ability to correctly comprehend the questionnaire. Not allowing for the effects of different resolutions will effect the way respondent has to navigate around the questionnaire and the way in which the questionnaire is displayed. Therefore it is important to consider these design elements when designing a survey.

### **2.3 Taxonomy of Web Based Questionnaires**

Whereas e-mail based questionnaires are static and face a number of limitations which can effect the overall design of the questionnaire. There are a number of different types of web based questionnaires. These types vary according to the programming language used, and can be adapted to incorporate features not available with e-mail questionnaires.

### 2.3.1 HTML forms based questionnaires

All types of WWW questionnaires are based on the set of programming directives contained within Hypertext Mark up Language(HTML), the default programming language for the WWW and Internet. The directives define what types of input fields are used to gather information from users of the WWW across a number of browsers and computer platforms. These directives are combined with other Web based programming techniques to develop the different methods of collecting data across the web.

The input fields found in the HTML programming language are used to construct HTML forms, which is the standard method for developing web surveys. Unfortunately, there are some problems with surveys based on HTML forms due to the limitation of the HTML directives (Bytheway, 1998). The input fields are restricted to those listed in Table 1. HTML forms are essentially an electronic version of a mail questionnaire in the sense that they are not adaptive and can not have the complex skip patterns unlike other forms of web based surveys (Bataglj & Vehovar, 1998).

**Table 1. Description of possible html input fields**

Type of Field	Display	Actions
Text	<input type="text"/>	Enables respondent to type in text
Check box	<input type="checkbox"/> CheckBox1	Inserted next to independent option that can be selected. The option is not mutually exclusive
Option(radio) Button	<input type="radio"/> OptionButton1	Inserts an option button next to each item in a group of two or more choices that are mutually exclusive
Submit	<input type="submit" value="Submit"/>	Button that sends the form to the web site of the researcher
Reset	<input type="reset" value="Reset"/>	Resets the form fields to the default values

Source (Bytheway, 1998)

These input fields are similar to the ones currently used in mail surveys with the



exception of the submit and reset button which could be seen as the electronic version of returning the survey and an eraser respectively.

Text fields can create problems with open-ended questions. In most cases, text boxes are limited to 255 characters. This limitation means that respondents may have to edit or provide incomplete answers (Mullin, 1998). It is possible to increase the number of characters that may be entered into the text field, but the amount of text displayed to the respondent is normally limited by the size of the original text box. To enable respondents to see more of the text they have entered a scroll bar is used to navigate around the text box and display any hidden text(Jaworski, 1997). This may pose problems to respondents wanting to review what they have written.

With HTML questionnaires, instead of using a pen to tick a box, the respondent clicks on an option button or a check box. The use of an option button has an advantage over the traditional pen and paper tick box in that the responses are limited. This removes the possibility of respondents selecting more than one response, which can occur with traditional mail surveys. A check box is similar to an option button, but the responses are not mutually exclusive, therefore more than one answer can be obtained for the questions. Mullin (1998) has examined a number of issues surrounding the use of option and check boxes and has found that the use of check boxes and option buttons can prove difficult for some people because the buttons are quite small. An example of an option button response is shown in Figure 1 and Figure 2.

Strongly agree	Agree	Diagree	Strongly disagree	No opinion
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
<input checked="" type="radio"/> Male				
<input type="radio"/> Female				

**Figure 1. Example of Radio/Option buttons**



Which of the following beers have you purchase in the last week

<input checked="" type="checkbox"/> Steinlager	<input checked="" type="checkbox"/> DB Natural
<input checked="" type="checkbox"/> Ice Beer	<input type="checkbox"/> Lion Red

**Figure 2. Examples of Check boxes in survey**

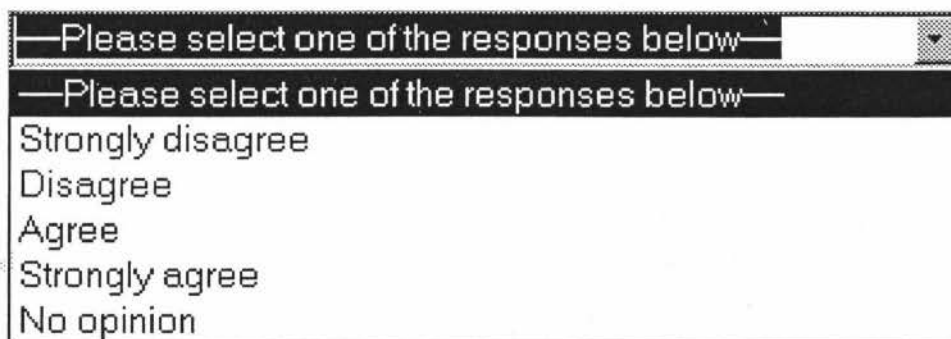
Option buttons require respondents to be accurate when selecting the buttons. In addition, the placement of the check box or option box is limited. In most cases they have to be placed to the left or below any associated text (see figure 1). This is against the natural way in which people read (normally left to right) and can result in the questionnaire being more difficult to read (Mullin, 1998).

There are several problems associated with navigating around an HTML questionnaire. With an HTML questionnaire, the whole questionnaire is displayed at once requiring the respondent to use scroll bars to move to the next question. Early research in web usability indicated that users found this to be difficult and some ignored parts of the hidden web page (Mullin, 1998). More recent research indicates users are becoming more used to scrolling through web pages and tend to start scrolling as soon as they enter the page (Nielsen, 1997), but a percentage still ignore parts of web page that are hidden. Because respondents can scroll through the whole survey upon accessing the web site, a possible learning effect may occur, and this could influence respondent's answers. In addition, it is possible for respondents to miss questions because they have scrolled past them by mistake. To avoid the use of a scroll bar, Mullin (1998) recommends that "all navigation tools that individuals navigating a site will need are within the survey application itself"(Mullin, 1998 pg11). These navigation tools could involve the use of hyperlinks to the next question or some form of graphic to act as a link to the question. Any navigation tools must be well designed because any poorly designed tools may result in respondents having to spend more time on navigating than on answering questions.

Jenkins and Dillman (1997) also maintain that making navigation easier can result in an increased motivation for the respondents to answer the survey.

Although one of the most common methods of collecting data via the Internet and World Wide Web, HTML forms have a number of limitations that may affect their effectiveness in collecting data. The problems of size of option buttons and positioning of any associated text can not be fixed because of the limitations of the directives that they are based on. The problems associated with the text box can be overcome to a certain extent, but these solutions can lead to further problems with the amount of text being displayed limited to the size of the box. These problems and the one associated with navigating around the questionnaire can be solved with the use of careful wording and layout design of the survey.

In an effort to overcome the limitations of the HTML format, other types of formats have been developed based on the HTML directives. These formats use the same basic directives as the HTML based survey, but with the inclusion of additional types of field. The new field known as a list or combo box allows for the list of possible options being displayed in a drop down box (see Figure.3).



The image shows a screenshot of a web form. At the top, there is a text input field with the placeholder text "Please select one of the responses below". Below this, a dropdown menu is open, displaying a list of five options: "Strongly disagree", "Disagree", "Agree", "Strongly agree", and "No opinion". The dropdown menu has a black header bar with the same placeholder text as the input field above it.

**Figure 3. Example of a Combo or List box**

The possible selections within the list can either be mutually exclusive or non-mutually

exclusive (Jaworski, 1997). The field is based on JavaScript programs, which works in addition to the standard HTML input fields. The use of a combo or list box reduces the need to use several option buttons for one question. Although the combo/list appears to have some advantages over the use of option button for some type of questions there are some limitations. Mullin (1998) and others have indicated that there is a possibility that some respondents would have difficulty in using drop down boxes. It is quite possible to accidentally select the wrong response from the list. In addition depending on the placement of the combo/list box on the web page the list can be displayed up rather than down which may obscure some of the question relating to the combo/list box (Mullin, 1998).

### *Navigation Tools*

In an effort to overcome the need to use the scroll bar and improve the overall navigation of the web based survey, individual questions can be displayed on one web page at a time. This eliminates the need to scroll through the questionnaire and removes the possibility of respondents answering questions out of sequence (Bataglj & Vehovar, 1998). The displaying of a single question at time requires the respondent to submit the question before proceeding on to the next question (Mullin, 1998). There are a number of advantages to this method as it becomes possible to introduce skips in the questionnaire and allows the researcher to develop self-checking questionnaires (Bataglj & Vehovar, 1998 ; Frost, 1998 ; Bauman, Airey, & Atak, 1998). With the use of computer gateway interface (CGI) program it is possible for the questions to be checked to determine if the answer is valid. For example, it is possible to check whether answers to questions regarding respondents age fall within acceptable levels i.e., between 3 years old and 110 years old. It is also possible to determine whether the respondent has provided a response to a particular question, or whether they have accidentally or deliberately missed the question (Schmidt 1997). The CGI program redisplay the question with additional instructions explaining that either an incorrect response was entered or the respondent had not provided an answer. The program can be used to restrict the respondents progress through the survey until the particular question is

answered (Schmidt 1997). The use of this type of program does raise a number of issues. In a traditional mail survey, respondents are normally given the option of not answering any question they do not want to. If respondents are forced to answer questions they may exit the questionnaire without completing the rest of it (Schmidt 1997). Therefore, for ethical reasons Schmidt (1997) maintains respondents should be given an option not to answer a particular question. This could be achieved by including an additional response to any question, for example, including a non-applicable response, which gives the respondent the option not to answer the question, but still allows the program to check for some response. Overall, the use of these techniques should result in improved data quality with the possibility that invalid responses and missed questions are reduced.

The displaying of one question at a time on a single web page overcomes a number of problems associated with the traditional HTML form web survey as the problems associated with using the scroll bar are removed and navigation around the questionnaire becomes easier for the respondent. The submission of single question also allows for the checking of answers for a valid response and unanswered questions, with the questions being re-presented to the respondent for correction if necessary. The resulting improvement in data quality and ease of navigation means that the use of combination of CGI and HTML survey has become quite wide spread.

### 2.3.2 Computer Assisted Web Interviewing questionnaires

The final method of conducting web based survey is based on the methods developed for conducting Computer Assisted Telephone Interviewing (CATI). The method involves taking the features of CATI such as rotations and randomisation of questions, complex skips etc. and applying them to a web based questionnaire (Kottler, 1997). This method is commonly referred to as Computer Assisted Web Interviewing (CAWI) and again is based around HTML form directives, the difference being in the manner in which the questions are displayed and what is done with the information. Kottler (1997) and Bataglj and Vehovar (1998) describe CAWI questions as being similar to HTML form, but each question is its own form and when the respondent completes the question it is

checked and validated. Depending on the response, the next appropriate question is displayed without the respondent having to take any further action (Kottler, 1997 and Bataglj & Vehovar, 1998). The checking of the submitted question is similar to the previous method but also involves checking for logically consistent responses. The questions not answered appropriately are redisplayed for the respondent to complete correctly or provide an answer. The CAWI based questionnaire automatically analyses responses to determine whether respondents should skip particular questions, which removes this decision from respondents. Along with automated skips the CAWI system allows the researcher to randomise the order the lists are displayed to remove the possibility of order effects and to adapt the question based on the previous responses. For example, it is possible to reduce the number of response options in the next question, or change its wording.

The automation of CAWI based questions goes a long way in reducing the requirement of respondents to navigate around the questionnaire and allows the researcher to adapt the questionnaire depending on individual respondent's answers. However, their complex nature has seen them restricted to a number of specialised commercial proprietary applications. The use of CAWI will become more wide spread once the technology becomes more widely available.

## **2.4 Techniques used to improve response rates**

There have been a number of techniques and methods developed over a long period to improve the response rate of mail surveys, which have been subjected to numerous studies. A number of reviews and meta analyses have identified three procedures to have the greatest effect on the response rate. Yammarino et al reported that repeated contacts, whether in the form of preliminary notification or follow ups, personalisation and incentives have the greatest effect on response rates. Harvey (1987) and Herberlein and Baumgartner (1978) also arrived at this conclusion, and indicated that these factors have a major effect on response rates. Although well documented with regards to mail surveys, limited studies have been conducted using these techniques with e-mail or web

based surveys. This section will review various studies, which examines the effectiveness of these different techniques and looks at the application to e-mail and web survey methods.

#### 2.4.1 Preliminary Notification

The use of preliminary notification in traditional mail surveys is well documented with studies indicating that their use has a positive affect on response rates (Stafford, 1966; Ford 1967; Walker & Burdick. 1977). The purpose of the preliminary notification is normally to identify the researchers, to inform the respondent of the purpose of the study and its importance, to assure the respondent's anonymity and to request their co-operation. Early studies conducted by Stafford (1966) and Ford (1967) indicated that preliminary notification could have a positive effect on results. Stafford (1966) conducted a study using; a control group, who didn't receive any pre notification; one treatment group, who received a preliminary letter, (the preliminary letters were used to inform respondents of the nature of the survey and other factors indicated earlier); and a second treatment group, who were contacted by phone before receiving the questionnaire. The questionnaire was sent four days after the mail preliminary notification and three to four days after the telephone preliminary notification and no further contact was made with the respondents.

The results indicate that the use of preliminary notification has had a positive effect on response rates. Stafford (1966) hypothesised that preliminary notification induced a "more positive than negative effect on behaviour when the questionnaire arrived" (Stafford, 1966 pg 410). It was also concluded that since a telephone call was more personal than a letter and that this had a greater influence on respondent's behaviour, it sequentially increased the response rate. Ford's (1967) study achieved response rates of 39.6% for the treatment group that received an preliminary letter compared to 32.9% for the group that did not receive any notification (Ford 1967).



Further studies using preliminary notification conducted by Walker and Burdick (1977) and others have also received high response rates indicating the use of preliminary notification dose appear to have a positive affect on response rates. In the Walker and Burdick (1977) study both a preliminary letter and preliminary post card were used to inform respondents of the questionnaire that would be sent to them. The experiment consisted of a control group ( $n=300$ ), the experimental group that received the preliminary letter ( $n=200$ ), and a group that received the preliminary postcard ( $n=200$ ). The results indicate that the preliminary notification did have some effect on respondents with the following response rate being achieved.

**Table 2 Results of the Walker and Burdick (1977) Study**

Group	Revised sample size	Number of responses	Number of non responses	Response rate
Control	299	116	183	38.8%
Postcard	194	99	95	51.0%
Letter	199	107	91	54.0%

Walker and Burdick (1977) found that the difference between the control groups and the experimental groups was statistically different at the 0.01 level. But the difference between the two experimental groups was not statistically different (Walker & Burdick, 1977).

Although there is strong evidence that preliminary notification has a positive effect on response rates, there are some studies that indicate the use of preliminary notification can be problematic and have no affect, or in some cases can impact negatively on response rates. A meta analysis conducted by Chiu and Brennan (1990) indicated that there are a number of practical problems with the use of preliminary notification, primarily with telephone preliminary notification. They indicated that it is sometimes difficult if not impossible to obtain telephone numbers for members of the public (Chiu & Brennan, 1990). The researchers also indicate that there are some problems with preliminary notification and its effectiveness in some populations. In a study conducted by Parson and Medford (1972) two surveys were completed, one made up of alumni from a Master

of Business Administration (MBA) program at large private university. Parsons and Medford(1972) maintain "that when the sample is drawn from a fairly homogeneous population the advance notice does not improve the response rate" (Parsons & T.S, 1972 pg 258). This conclusion was confirmed by Jobber and Sanderson (1983) who found that use of a preliminary notification letter in a commercial population appears to depress response rates (Jobber & Sanderson, 1983). In an experimental study conducted on British textile companies, Jobber and Sanderson found that the treatment group that received a preliminary notification letter had response rates of 38.5% compared to the treatment group that didn't receive the preliminary notification who had a response rate of 41.2%. The difference in the response rate was found to be significant at the 0.05 level (Jobber & Sanderson, 1983). This led Jobber and Sanderson to hypothesise that the number of contacts affects the response rate. They maintain that the managers in the survey objected to the number of contacts made regarding the questionnaire, which had a negative effect on their behaviour and resulted in them not responding to the questionnaire (Jobber & Sanderson, 1983).

In another study conducted with a youth group in Britain the use of preliminary notification also had no significant effect. Taylor and Lynn (1998) conducted a study examining the attitudes of young people. The study was a part of the Youth Cohort Study (YCS), which is a series of postal panel surveys with the sample drawn from young people. A sample of 23051 people between the age of 16 and 17 who were undergoing the transition from school to the work force or onto further education. The sample was divided into two treatment groups, one that received preliminary notification and the other that did not. The treatment group that received the preliminary notification letter had a response rate of 64.9% and the other group had a response rate of 64.8%. The results were not significant with a one tailed p value of 0.499. These results also led Taylor and Lynn to conclude that there was no evidence that using a preliminary notification had an affect on the response rate of the YCS. This study appears to back up the conclusion reach by Parson and Medford (1972), that the use of preliminary notification has no effect on the response of homogenous samples.



There has been limited research conducted into the effectiveness of preliminary notification in e-mail surveys. Mehta and Sivadas (1995) found that the use of preliminary notification was important when conducting e-mail surveys in the general public. The treatment group in their experiment that did not receive a preliminary notification had to be discontinued because of the number of complaints they received from people objecting to receiving unsolicited e-mail survey (Mehta & Sivadas, 1995). With the Mehta and Sivadas study the questionnaire was contained in the body of the e-mail message, so that the first contact that respondents had with the researcher was a large unsolicited e-mail message arriving in their electronic mail boxes. Unsolicited e-mail is generally treated as 'Spam', which is defined as any junk e-mail or unsolicited e-mail, and is considered to be against established etiquette for users of the Internet and World Wide Web. In some cases, the users of 'Spam' have been the subject of harsh responses (flaming) from the people who received the e-mail message (Corporate Author, 1998). The problems that Mehta and Sivadas faced may have been the result of how they obtained their sample. The researchers recorded the e-mail addresses of usenet users, without their permission, when they posted messages to the usenet. Potential respondents may have seen this as a breach of privacy and therefore reacted by flaming the researchers.

Other studies conducted by Schaefer and Dillman (1998); Morpew and Williams (1998); and Sproull (1983) have used preliminary notification but in non experimental studies, or have not tested the effect of the preliminary notification, so it is not possible to determine whether the use of a preliminary notification has had any effect on the response rate of e-mail surveys. Because of the problems associated with unsolicited e-mail, Frost (1998) maintains that e-mail surveys may have to be preceded by other methods of communications or carefully worded pre-notification by e-mail if backlash or flaming from respondents is to be avoided (Frost, 1998).

The effectiveness of preliminary notification is also disputed by a number of researchers who have conducted meta-analysis of previous research. Yammarino et al (1991) conducted a meta-analysis, which indicated that the number of repeated contacts has the

greatest effect on response rates, not the sequence of the contacts (Yammarino, Skinner, & Childers, 1991). This conclusion is confirmed by Dillman et al (1995) who states that “It has long been accepted that the strongest predictor of response rates to postal surveys is the number of contacts with potential respondents, more contacts the higher the expected response rate” (Dillman et al (1995) cited in Taylor & Lynn, 1998 pg166). Yammarino et al (1991) also indicated that a number of studies which tested the effectiveness of preliminary notification were unbalanced experiments because the number of contact varied. An example of this is indicated in Table 2.

**Table 3. Common experimental design for testing of preliminary notification.**

Number contacts	Treatment 1	Treatment 2
1	Pre notification	-
2	Questionnaire	Questionnaire
3	Follow up	Follow up
4	2 <sup>nd</sup> questionnaire	2 <sup>nd</sup> questionnaire

Treatment 1 has one more contact than treatment 2, which appears to have an effect on the response rate of the treatment. This problem of unbalanced design occurs with both e-mail and mail based surveys. This can be overcome by comparing the response rates after the same number of contacts, unfortunately no studies appear to report this information.

One of the advantages with the use of preliminary notification is that the researchers are able to remove respondents whose preliminary notification was returned “gone no address” from the mailing list for the questionnaire. This effectively reduces the cost of sending out questionnaires because the address of the respondents has been confirmed. This applies both to e-mail and traditional mail based survey, also with the e-mail survey the respondent can be given the opportunity to refuse to take part in the questionnaire by informing the researcher.

The use of preliminary notification appears to be problematic with some researchers indicating that it has a positive effect on response rate, and others indicate that it has a negative effect on some populations. There is also strong evidence that any effect is not

being correctly measured because of the use of unbalanced designs. In most cases there is a difference in the number of contacts with respondent, which may be more important than the sequence of contacts. The majority of researchers maintain that preliminary notification is important with e-mail based questionnaires. The use of an e-mail message containing a hyperlink to a separate web site containing the questionnaire acts as a preliminary notification, and it provides access to the questionnaire.

#### 2.4.2 Follow up contacts

Another technique used to increase response rates in mail surveys is some form of follow-up contact, either by letter, postcard or telephone. The main purpose of the follow-up contact is to remind the respondent to complete and return the questionnaire; also some researchers have used them to supply an additional questionnaire in case the first one was lost, and to thank the respondents for their participation in the study. A significant amount of research has been conducted in this area with the results indicating that the use of follow-up contacts can increase response rates. A review of previous studies conducted by Heberlein and Baumgartner (1978) found that follow up mail contacts result in an overall increase in response rate of 20% in 21 studies reviewed (Heberlein & Baumgartner, 1978). In another review of previous studies, Kanuk and Berenson(1975) found that more than two follow up contacts achieved dramatic increase in response rates for a number of studies. Dillman et al (1974) onducted a comparison of the response rates for a four State survey in the USA. The results indicated that the use of follow up contacts had an effect on the response rates. The overall mean response rate for the surveys increased from 23.8% to 42% with the first follow up contact, an increase of 18.2%. Similar increases in response rates were achieved with subsequent follow-up contacts. The second and third follows-up contacts increased the response rate by 17% and 13.4% respectively (Dillman, 1972). These results were reflected in another study conducted by Roscoe et al (1975) where the effect of telephone follow up contacts were compared to the postcard reminders for short and long versions of a mail based questionnaires.

The use of follow up contacts is also well established in e-mail based surveys, with a number of studies using them. Sproull (1986) Schaefer and Dillman (1998) Tse (1995) and others have used follow up contacts to increase response rates. Schaefer and Dillman (1998) used both mail and e-mail follow up contacts in the study, which resulted in response rates of 58% for the e-mail reminder and 54.4% for the mail reminder. In comparison, the traditional mail based control group achieved a response rate of 57%. None of the current e-mail based studies have conducted any experiments into the effect of not conducting any follow-up contact with respondents, so it is not possible to quantify the effect of follow-up contact with respondents. But it could be assumed that e-mail follow up contacts would have the same effect as mail. As with the use of preliminary notification it is not possible to determine whether follow-up contacts have a direct effect on response rates because as stated it is the number of contacts with respondents that appear to have the greatest effect.

The use of follow-up contacts in web based survey is restricted to the method used to contact or select respondents. For example, if respondents are invited to complete a survey via banner adverts then it is not possible to conduct a follow up reminder contact. This is equivalent to contacting a mall intercept survey. The researcher normally only has one chance to get the respondent to complete the questionnaire. With the study conducted by White (1996) respondents were asked to evaluate a number of speciality food web sites. Respondents were made up of three types;

- a) pre-registered - those who had completed an early survey and had agreed to participate in future studies;
- b) volunteers - those that had seen a banner advert and agreed to complete the survey;  
and
- c) walk-ins - people who had entered the sites being evaluated and agreed to evaluate other sites.

For the pre registered and volunteer groups e-mail addresses had already been obtained, so follow-up contacts were made. Two follow-up contacts were made, one ten days after the initial request to those in the pre registered and volunteer groups only, and another follow-up three days before the closing period for the survey to all participants. This resulted in “52.9% of the volunteers and 51.8% of the pre-registers completing at least one site evaluation”(White, 1996 pg 47) compared to 68.4% of the walk-ins who completed at least one evaluation. The results are not that good considering that the respondents were asked to evaluate a total of 6 sites. Although the researchers do state that “The third and final notice which was sent to all respondents who had not completed six company evaluations appears to have been very important to increasing the participation of males in the review process”(White, 1996 pg 50). Unfortunately, no information is given on the effectiveness of the follow-up contacts on the different groups so it is difficult to determine their effectiveness.

Another web based survey conducted by the Graphics, Visualisation and Usability Centre at Georgia Institute of Technology has encountered similar problems. This project initially used links from popular web sites and postings to new groups to obtain a sample. Again it is difficult to determine a response rate for the survey but their survey obtained over 4800 responses (Pitkow and Recker 1995). The researchers involved in the project invited previous respondents to take part in future studies and combined these results with new respondents obtained from placing adverts on popular web sites.

The use of follow up contacts appear to have a positive effect on the response rates of both traditional mail, e-mail and web based surveys and have become an integral part of survey methodology.

#### 2.4.3 Personalisation

Another technique used to improve the response rate of mail surveys is personalising the communication with the respondents. In most cases the personalisation of the mail survey has involved personally addressing the mail, signing any letters with a ball point

pen and using real names instead of generic terms such as Dear Sir/Madam etc. Harvey (1987) stated in the review of previous research that personalisation has “shown quite contradictory results”(Harvey, 1987 pg 345). The research review by Harvey (1987) indicates that no clear conclusion can be drawn about the effectiveness of personalisation of contacts with respondents. This is also confirmed Yammarino et al (1991) who reports that in a review of 26 studies conducted by Worthen and Valcarce (1985) that the effect of personalisation was small (Worthen and Valcarce (1985) cited in (Yammarino et al., 1991)). Although it appears that personalisation has little effect, Dillman and Frey (1974) and Carpenter (1974) have recorded higher response rates for personalised communication (92.1% and 72.2%) than non personalised (84.8% and 71.3%). With both studies the level of personalisation involved hand written individually addressed letters, which were personally signed using a ball point pen (Dillman & Frey, 1974),(Carpenter, 1974-75). Although there is an increase in the response rates the cost in time and money to achieve the increase would indicate that a high level of personalisation is not cost effective.

With the use of e-mail the same level of personalisation cannot be achieved in terms of signed letters and hand written addresses. However it is possible to personally address any correspondence with respondents. Schaefer and Dillman (1998) recommend that e-mails be sent to respondents personally not to mail lists because it prevents respondents contacting each other (Schaefer & Dillman, 1998). It is also possible to personalise the salutation by using “mail merge” features common with most word processing packages. It is also possible to adjust what type of follow up contact is made with the respondents. Batgelj and Vehovar (1998) sent e-mail messages to respondents of their 1996 and 1997 RIS survey received a personalised thank you letter which thanked them for their time completing the survey ( for example ‘thank you for your 5 minutes and 35 seconds of your time on May 15 at 10:35....’)(Bataglj & Vehovar, 1998 pg 11).

With e-mail and web based questionnaires where respondents are asked to participate in the surveys via a banner advert or news group posting it is not possible to personalise the communication with potential respondents. It is however possible for surveys where the



e-mail address from a known sample is used. It could be hypothesised that using personalised e-mail messages may be effective to obtain respondents attention, as the e-mail message may stand out from other generic e-mail. Because of the little cost involved in using personalisation techniques, such as personally addressing the e-mail, it would appear to be an easy way to increase response rates.

#### 2.4.4 Incentives

Another method that has been developed to improve response rates is the offering of some form of incentive. A number of different types of incentives have been used to increase response rates, they include monetary incentives, gifts, donations to charities, prize draws and lottery tickets. These different types of incentives have had an effect on response rates both in terms of a prepaid incentive and a promise. In a review of 18 studies conducted by Armstrong in 1975 the evidence suggested that there is a strong positive impact on response rates if prepaid monetary incentives are used (Armstrong, 1975). In another review by Gajraj et al (1990) of 21 studies undertaken since 1975 the use of prepaid monetary incentives also resulted in a positive improvement in response rate (Gajraj, Faria, & Dickinson, 1990). The value of the monetary incentive also appears to effect the response rate. The effect of a large prepaid incentive is also confirmed by Warriner et al (1996) who also concluded "Too large a prepaid reward perhaps in the eyes of some can itself be normative violation, slightly in 'bad taste'" (Warriner, Goyder, Gjertsen, Hohner, & McSpurren, 1996). The use of promised monetary incentives appear to have a nil or limited positive effect on response rates. In a number of studies reviewed by Gajraj et al (1990) the promise of a monetary incentive resulted in a lower response rate than a prepaid monetary incentive. Gajraj et al (1990) only found two studies where the response rate for promised monetary incentives were significantly different from the control groups who didn't receive any incentive.

Gifts have also been used instead of monetary incentives to improve response rates. There are a limited number of studies that have been conducted using gifts as incentives. Of the studies conducted, Hansen (1980) and Houston & Nevin (1977) used a pen as an

incentive and found that the use of these gifts resulted in a significantly higher response rate than no incentive. Goodstadt et al (1977) examined the use of the gift of a book as an incentive to increase response rates compared with a monetary incentive and the promise of an incentive. The results are shown in Table 4.

**Table 4. Response rate for the Goodstadt et al experiment**

Incentive Type	Response Rate
None (Control Group)	62%
25 Cents	84%
Free book	67%
Book reward <sup>1</sup>	66%

<sup>1</sup> Free book sent to respondent on receipt of the questionnaire

Source (Goodstadt, Chung, Kronitz, & Cook, 1977)

The results indicate there was little difference between the gift groups and the control group. Goodstadt et al found that there was no statistical difference between the control group and the two gift groups, but response rates for the monetary incentive was statistically significant (p-value 0.005) (Goodstadt et al., 1977).

Another type of incentive used is that of a lottery ticket. Gajraj et al (1990) conducted an experiment using a gift and monetary incentive, and lottery ticket. The promise of a lottery ticket was more effective than the promise or inclusion of other types of incentives. The response rate for the promised lottery ticket is close to being statistically significant with a p value of 0.056. In a similar study by Brennan et al (1991) a prize draw for \$200 cash or \$200 gift voucher was used and tested in an experiment against monetary incentives. The results indicate the monetary incentives of 50cents and \$1 were more effective than the chance of winning \$200 cash or gift vouchers in a prize draw (Brennan, Hoek, & Astridge, 1991). Overall it would appear that the use of lottery tickets or prize draws is not as effective as relatively small monetary incentives.



As well as lottery tickets the use of discount coupons have been used to increase response rates. Kalafatis and Madden (1995) found that regardless of the value of the discount the inclusion of discount coupons has a negative effect on the response rates when compared to no incentives (Kalafatis & Madden, 1995). Kalafatis and Madden concluded that respondents “viewed the redeemable discount coupons not as incentives but as an effort to actually to generate sales”(Kalafatis & Madden, 1995 pg 181). From the results of this study it would appear that the use of any redeemable discount coupons would adversely effect response rates and therefore should not be used.

The final incentive method used to increase response rates is donations to charities. The use of donations to charities as an incentive has had some mixed results. In a number of studies the use of donations to charities is less effective than a monetary incentive of the same value. In some cases no incentive has proved to be more effective than the use of a donation to charity. Dickinson and Faria (1995) hypothesised that this may be due to the type of charity that donation was being made to. The 1995 study allowed the respondent the opportunity to choose the type of charities, which would receive the donation. The results indicate that a “contribution to more popular health related charities increased response rate by 20.5% points compared with less popular social/culture charities” (Dickinson & Faria, 1995 pg 452). Therefore the choice of charity appears to effect the response rate, however further studies are required to confirm this.

## **2.5 Potential techniques for improving response rates in e-mail and web surveys.**

The use of incentives with web based and e-mail surveys is limited due to the method of delivery of the survey. The majority of incentives used have to be promised incentives, as it is difficult to include an incentive with the initial e-mail contact to the respondent. A number of studies White (1996) and Comley (1996) have used some form of incentive. White (1996) offered a free T-shirt to respondents who clicked on a banner advert and completed the associated web based survey. It is not possible to determine if this had any effect because it wasn't stated how many people saw the banner adverts. In the Comley study respondents were offered the choice of a UK£2.00 incentive or donation to charity,

also the first 200 respondents entered a draw for a wide screen TV. It appeared that these incentives had little effect on the response rate (13.5%). Unfortunately, this was not an experiment study so the poor response rate can not be attributed to poor reception of the incentives, but monetary incentives of similar amounts have had positive effects on response rates in mail surveys.

The use of gifts as incentives is also problematic. Gifts such as T-shirts require the respondents to supply a physical address so that the T-shirt can be sent to them, some respondents may object to supplying a physical address because of issues of confidentiality. Electronic gifts can be used as a substitute, such as free software or free entry to a restricted site, but this may attract the same connotations as vouchers and be seen by respondents as an attempt to attract future business of the software developers and site owners. An alternative to using some form of gifts is ecash, an electronic form of cash developed for conducting transactions over the World Wide Web. The use of ecash as a method of conducting transactions is still limited. There are few banks supporting the protocol, and not many on-line retailers accept ecash. The users of ecash have to be registered and have an ecash account with a supporting bank (DigiCash, 1997). Because of these limitations any use of ecash at this stage could have a negative effect on response rates because of the process respondents would have to go through to use their ecash incentives. The ecash incentive may also have the same effect as vouchers and be seen as an attempt to make future unwanted purchases.

Of the different types of incentives used in traditional surveys the most effective appears to be prepaid monetary incentives, but this is difficult if not impossible to replicate for e-mail and web based questionnaire. Other incentives such as promised monetary, gifts, lottery tickets or prize draws, and donations to charity do affect response rates but in most studies any effect is smaller than a prepaid monetary. The value or possible value of the non prepaid monetary incentive appears to have little effect on respondents. In studies where the prize draw or gift were of more value than the monetary incentive the response rate was higher for the smaller value monetary incentive (Brennan et al., 1991; Gajraj et al., 1990; Goodstadt et al., 1977). It would also appear that smaller monetary incentives

are more effective than large ones with studies indicating that respondents look on large incentives as bribes and therefore do not complete the questionnaire (Brennan et al., 1991; Warriner et al., 1996). The use of donations to charity also appears to be less effective than the prepaid monetary incentive in some cases, and studies suggest that the type of charity affects the effectiveness of this incentives. Use of incentives with e-mail and web based surveys is problematic due to limitations of the medium and the most effective method with traditional mail is currently not available to researchers using these methods of survey delivery. Because of problems associated with using incentives in conjunction with web based surveys it is recommended they are not to be used in the study.

Of the different techniques used to improve response rates to a traditional survey, a number can, and have been adapted to e-mail and web based surveys. Some of these techniques have been effective in increasing in response rates, but unfortunately some of the most effective methods are not available to researchers using e-mail or web based surveys. Personalisation and follow up contacts will be used with a limited type of preliminary notification.

## **2.6 Data Quality**

There a number of potential sources of error that can effect the quality of a research process. This error can normally be divided into two broad categories; sampling error and non-sampling error. Sampling error occurs when the sample used in the survey is not representative of the whole population and results in a different measure being obtained from the sample and what can be obtained from the population if they were surveyed. The other main component, non-sampling error includes all other error associated with the research project and includes such items as design error, non response errors, response errors, and administration error. As with any survey web based surveying is subject to the possibility that these factors will effect the quality of the data obtained by the survey, but web based survey does allow for some of these errors to be reduced or eliminated.

One of the major potential sources of error is sampling error. Web based and e-mail research is subject to large amounts of sampling error because of the fact that the use of WWW and e-mail is not widely used within the general population. A number of researchers have noted this as the main problem facing on-line surveys (Frost, 1998). Kiesler and Sproull (1986), Metha and Sivadas (1995) and others state the on-line surveys are restricted to members of the population who have access to computers and are comfortable with them. Research conducted by Georgia Tech's Graphic and Visual Useability WWW survey team indicates that 38.7% of web users are women with 80.9% having some university education and 50.1% having completed one degree (Kehoe, Pitkow, & Rogers, 1998). Although this not representative of the population, Comley (1996) maintains that the on-line survey may be applicable for certain types of research such as, adoption of new high tech products, computer usage, employee and customer surveys and special interest groups. Sampling error will remain a problem with web based and e-mail surveys until such time the adoption of the technology has increased. This study will not address these problems but will focus on examining other types of error that may effect quality.

One primary error that is virtually eliminated is data entry error, which occurs when data is incorrectly entered into the computer package that analyses it. Unlike traditional surveys responses from web based surveys are entered directly into a computer package without the use of a third party who may incorrectly encode the information (Frost, 1998; Kiesler & Sproull, 1986).

Non-sampling error also effects the quality of any data collected and mainly relates to the management of the survey. In this area on-line surveys tend to have an advantage of more traditional methods because of the elimination of certain areas that can cause errors in the research.

#### 2.6.1 Aspects of respondent error

There is wide debate as to what qualifies as data quality or response quality, Houston &

Ford (1976) state that response quality must take into account the effort and thought respondents have put into completing the questionnaire. Alternatively McDaniel and Rao (1981) propose that response quality can be measured and defined along three dimensions; completeness of the answer, item omission, and response error. This study will examine data quality allowing these dimensions.

A number of other studies have examined the issues of completeness of the answer, item omission, and response error. Completeness of answers tend to relate to opened ended questions and it appears from experimental studies conducted by Bachmann, Elfrink and Vazzana (1996) and Schaefer and Dillman (1998) that respondents of e-mail based surveys tend to provide longer responses to open ended question, compared to the mail survey. Schaefer and Dillman found that on “average open ended response on e-mail version contained 40 words, while open ended responses on the paper version contained 10 words” (Schaefer & Dillman, 1998 pg 8 ). Metha and Sivadas also reported a higher average number of meaningful words in open-ended questions for their e-mail treatments in their survey. The two e-mail treatment respondents on average wrote 10.17 and 9.14 words compared to the mail treatments with 2.86 and 3.84 (Mehta, 1994). Comley (1996) obtained similar results with open-ended questions in e-mail survey resulting in a higher average number of words (Comley, 1996). In addition, to an increase in number of words the researcher also indicated a higher completion rate for open-ended question. Schaefer and Dillman found that an open-ended question, asking for additional suggestions, resulted in a 12% higher completion rate for the e-mail treatment over the mail survey. Bachmann et al also reported higher responses to open-ended question in the e-mail version of their survey, 21.9% of the survey responded to the open ended question in the e-mail survey compared to 4.8% in the mail survey (significant at the 0.05 level) (Bachmann, Elfrink, & Vazzana, 1996). The majority of researchers have hypothesised that the increased number of words and completion levels are due to the fact the respondent may have found it easier to write responses to the open-ended question using a key board rather than by hand.

Alternative hypothesis is that because the space available for providing response to an

open-ended question is not limited respondents tend to write more. The e-mail format effectively removes any limitation because the space provided increases in size with each word entered. Research conducted by Gendall et al (1996) indicated that providing more space in a mail survey to write responses increased the number of words and ideas. The mean number of words per response for a 10-line space was 6.7 compared to 5.1 for a two-line space. The mean number of ideas generated for large space was 1.6 and 1.3 for the smaller space. Although there is a small difference, the results are statistically significant (p value of 0.02, and 0.01 respectively). These differences only appear to occur when considering individual responses. When the results are aggregated there is no difference in the number of words and ideas generated for both sizes (Gendall, Menelaou, & Brennan, 1996). It could be hypothesised that a combination of both, ease of writing and space are having an effect on the number of words generated by open-ended questions in e-mail surveys.

Because of the different methods used to determine the level of data quality for open-ended questions it is not possible to make a comparison across the different studies. In this study, the following criteria will be used to determine the effectiveness of open-ended questions. Firstly, the number of words per open-ended question by treatment, secondly, the number of different ideas generated. Thirdly, the average number of ideas generated per respondent. These ideas will be classified using the following criteria, that the idea is not meaningless, ambiguous, repetitive of a previous statement or irrelevant to the general topic of the question (Dohrenwend, 1965 ; Brennan, 1997). The use of this criteria should assist in determining whether web based surveys generate more meaningful ideas compared to their e-mail survey counterparts.

#### 2.6.2 Closed or Fixed response questions

Although the level of completion for open-ended questions appears to be higher in e-mail based survey the results for closed questions appear to be mixed. Both Sproull (1986) and Bachmann et al (1996) reported a higher non response for e-mail items. Sproull(1986) reported an overall mean missing data response of 0.2 % for the mail



survey compared to 1.4 % for the e-mail survey. Similar results were found by Bachmann et al with an average number of items omitted of 3.1% for the e-mail survey and 0.7 % for the mail survey (Bachmann et al., 1996). Comley (1996) also reported a higher average level of item omission for e-mail respondents, but this does not appear to be significant with a p value of 0.465. In contrast, Metha and Sivadas (1994) and Tse et al (1994) found no difference between the two survey methods. Schaefer and Dillman (1998) reported a higher completion rate with e-mail with 69.4% of the respondents completing at least 95% of the e-mail questionnaire compared to the mail questionnaire with only 56.6% of the sample completing 95% of the questionnaire.

The difference between the two methods could be due to the limitations of the e-mail format. Respondents may have accidentally scrolled past questions which results in them not answering some of the questions, also if the questionnaires contain skips, respondents may have accidentally missed questions because they have scrolled past them. With the CAWI method, it is possible to force respondents to answer a question before proceeding to the next question. The inclusion of non-applicable answers in the possible response will allow respondents who do not want to answer a particular question to proceed to the next question. Overall, there is again difficulty in making a comparison between the studies as different methods have been used to determine the quality of the closed questions. Although web based surveys will not eliminate the possibility that respondents have deliberately answered incorrectly, it will reduce the error resulting from respondents missing questions.

Another aspect of response error occurs when respondents are unwilling to provide an inaccurate answer or false response to sensitive questions. Research conducted by Beckenback (1992) indicates respondents tend to experience a higher degree of privacy and anonymity with computer assisted self-interviewing (Beckenback 1992 cited in de Leeuw, Hox, & Snijders, 1995). Sproull and Kiesler (1986) who found fewer socially desirable answers in an electronic survey compared to a traditional mail survey have also reported the result. It would appear from the limited research conducted that respondents of e-mail and web based surveys tend to be less inhibited (de Leeuw et al., 1995) but this

preliminary conclusion conflicts with a number of privacy issues being raised in regards to the WWW.

Through the use of web survey techniques, some types of non response error can be reduced, which will result in reducing the overall level of error associated with survey. The use of computer programming to validate data and remove the possibility of respondents missing questions should ensure data is more accurate.

## **2.7 Response Speed**

Along with response rates, another important factor is the speed of response when assessing different methodologies. As with response rates, the response speed of a survey can be affected by similar factors, such as pre-notification, incentives and follow up contact with respondents. The literature on mail based surveys indicates that the incentives appear to have the greatest effect on response speed. Research conducted by Chebat and Cohen(1993) indicates that incentives have a greater affect on response speed than pre-notification letters. In a two-stage survey the research found that incentives were more effective for both low and high socio-economic groups (Chebat and Cohen 1993).

WWW and e-mail based surveys have been found to have a higher response speed than traditional based mail survey. A number of studies have indicated a significant difference in response speed with Schaefer and Dillman reporting that 17.6% of all the surveys received were returned on the same day they were sent (Schaefer & Dillman, 1998). The average time for the receipt of the completed questionnaires was 9.16 days for the e-mail survey and 14.39 days for the mail survey which was significantly different with a t value of 5.718 and p value of 0.0001(Schaefer & Dillman, 1998). Similar results have been achieved by Bachmann et al (1996) with over half of the responses arriving within two days and more than 80% within one week of being sent out (Bachmann et al., 1996). These results were repeated for other studies with Metha and Sividas (1995), Schuldt et al (1994) Kiesler and Sproull (1986) reporting significantly fast response speed. The only study to not have a significant difference in response speed is Tse et al (1995) who



reported a response time of 8.09 days for the e-mail survey and 9.79 day for the mail survey. This result is mainly caused by the low response rate of 6% for the e-mail survey. Tse et al(1995) also stated that this might be because e-mail users only read their mail infrequently, but other research does not appear to support this conclusion.

There is little empirical research addressing the response speed of web based surveys due to that fact that to date most web based surveys have had the respondents directly accessing from banner adverts asking them to participate in the survey. White (1996) conducted a survey over a period of twenty one days and reported the majority of responses arrived during the middle of the period (White, 1996). In another web based survey conducted by Findlater and Kottler (1997) the response speed was extremely fast. Within 3 hours of e-mailing the respondent a request to participate in web based survey, they had achieved 40% (160) of the required 400 completed surveys, with a 100 surveys being completed within the first hour (Findlater & Kottler, 1997).

## **2.8 Summary**

As indicated in the literature review there are a number of limitations associated with the use of e-mail as a method of conducting surveys. These problems are primarily associated with the way in which questionnaires are required to be formatted in e-mail messages. The majority of e-mail programmes restrict the number of characters that can be displayed on one line, which affects the formatting of questions. Another limitation is that it is not possible to display images or non-standard characters. These problems have been addressed by some of the latest e-mail programmes, but it is not possible to determine how the questionnaire will be displayed to respondents because of the various numbers of e-mail programmes which support different levels of formatting. Although this limitation can cause problems, e-mail based surveys have become widespread both in academia and the business community.

It is possible to overcome a number of problems associated with email questionnaires through the use of web based questionnaires. Unlike e-mail programmes, methods used

to display information to users have been based on a standard set of protocols, which are common across all browser types. These protocols include standard response fields for developing questionnaires, which allows the researcher to be confident that the questionnaire will be displayed to different respondents in the same way. The standard response field replicates standard scales and tick box responses used in mail surveys, with some improvements. For example, it is possible to have a mutually exclusive response field, with radio buttons and drop down boxes restricting the potential respondent to only one possible response. This effectively eliminates the possibility of respondents incorrectly selecting more than one response in mutually exclusive questions.

Although there are advantages to web based questionnaires, there are some potential problems with the standard web based questionnaire. These questionnaires tend to be a single scrollable web page, which has some problems in terms of navigation. The use of scroll bars to navigate increases the potential for respondents to scroll past questions and it is easier for them to miss skips in the questionnaire. As indicated in the literature it is possible to overcome these problems with multiple page web based questionnaires. By displaying a single or limited number of questions per web page, the problem of respondents having to scroll through the questionnaire is reduced or eliminated. The use of multiple page questionnaires allows the researcher to develop questionnaires that adapt based on the respondents response to the previous question. This eliminates any possibility of respondents incorrectly missing skips in the questionnaire. Although using multiple pages can reduce the number of missed questions, it could result in other problems with respondents having to download a number of pages. This could result in respondents withdrawing from the questionnaire because they do not want to have to download a number of web pages. It could result in a higher number of incomplete questionnaires in comparison to single page web based questionnaires.

The use of multiple pages also allows the researcher to validate any responses submitted with the web page. The validation of the response opens the possibility of removing respondent error in terms of missing questions and logically invalid responses. This in effect forces respondents to answer the questions presented to them before proceeding

through the questionnaire. The respondents may object to having their responses being validated. Using validation also removes the ability of respondent to refuse to answer a particular question, because validation programs would treat this as an error. To overcome this problem it is possible to give a respondent a refusal or don't know option for the responses. Overall the use of validation programs would result in an improvement in the data quality for this type of questionnaire, but could have a potential cost in terms of respondents dropping out of the survey.

A number of web based questionnaires require respondents to access the questionnaire web site via banner adverts or the like. It is possible to create a hyperlink from an e-mail message to the web based questionnaire. In this instance, the e-mail message would be like the mail survey introduction letter with a separate questionnaire on the web. This would allow the use of techniques which have been found to increase response rates in mail surveys to be applied to e-mail surveys with hyperlinks to web based surveys.

There is overwhelming evidence to indicate that the incentives, personalisation, number of contacts and preliminary notification have an affect on increasing response rates of mail surveys. But there is limited evidence to indicate that these techniques have an affect on response rates on e-mail and web based questionnaires. Problems arise with whether these techniques can be applied to other methods. One of these techniques, which is difficult to apply to the new electronic method, is the use of incentives.

Research conducted in mail surveys indicates that the most effective incentive is a cash payment, which is included with the initial contact with respondents. This method is not possible with electronic surveys because of the lack of a standard alternative to cash.

Alternative incentives such as gifts also have similar problems, as it is difficult to present respondents with physical gifts, an alternative such as electronic gifts could be seen as product endorsements. Because of the problems associated with this technique, it has not been considered for this study.

One of the other methods is the use of personalisation, which is very easy to achieve with electronic media. Unlike mail based contact letters it is very easy to produce personally

addressed e-mail letters for respondents. This is a result of the limited costs involved in producing an e-mail letter and the use of databases and mail merge features, which can be used to produce personalised e-mail. Although it is easy to produce personalised e-mail, it is not possible for researchers to personally sign contact letters, it has been shown to have a positive effect on response rate. Although it is not possible to sign the contact e-mail message, it appears that by personalising the e-mail as much as possible may make up for the lack of signature.

Another technique that has been used to improve response rates is preliminary notification. The use of preliminary notification is problematic because of problems with the number of contacts with respondents. There is evidence that preliminary notification has a limited effect with some populations and the cost benefit of preliminary notification letters appears to be small. However a number of researchers have indicated that preliminary notification is very important when conducting e-mail based survey. This research has been conducted primarily with e-mail questionnaires. By using e-mail contacts with hyperlinks to the web based questionnaire this could act as a surrogate preliminary notification as the questionnaire is not included with the initial contact.

The research will compare the following types of questionnaires:

- Mail based questionnaire
- E-mail based questionnaire
- Single page web based questionnaire
- Multiple page web based questionnaire without validation
- Multiple page web based questionnaire with validation

To determine whether each of the above has any effect on response rate, response speed and data quality. The techniques used with mail based questionnaires will be applied to these different questionnaires where practically possible in an attempt to replicate standard practices used in mail survey. The specific research objectives are outlined in the next section.

### 3 RESEARCH OBJECTIVES

The overall research objective was to compare different methods of collecting survey data electronically via email and the Internet/World Wide Web, with traditional mail surveys, the key issues examined are:

1. Response rate. This will be determined by the number of completed questionnaires submitted or returned;
2. Response speed. The time taken by respondents to submit or return a completed questionnaire;
3. Data/response quality: to be defined along three dimensions being:
  - Completeness of the answer.
  - Item omission
  - Response error

The following research questions are addressed:

- a) Is there a significant difference in response rate for different types of web-based questionnaires, e-mail questionnaire and mail questionnaire?
- b) Is there a significant difference in response speed for different types of web-based questionnaires, e-mail questionnaire and mail questionnaire?
- c) Is there a significant difference between the levels of data/response quality for e-mail questionnaire, single continuous page non-checking web questionnaire, multiple page non checking questionnaire, self-checking

multiple page questionnaire?

- d) Does the use of data verification result in a learning affect, which sees the number of errors, reduce as respondents move through the questionnaire?
- e) Is there a significant difference in the number of incomplete questionnaires between the two types of multiple page and single page questionnaire?
- f) Does data verification affect the number of incomplete questionnaires?
- g) Do downloading multiple pages affect completion rates?
- h) Do completion times significantly differ between web based questionnaires?
- i) Do open-ended questions in web based, and e-mail based questionnaire produced significantly different responses in terms;
  - Number of ideas generate per question and the average number of ideas generated per respondent
  - Word generated per question and the average number of words per respondent.

## **4 METHOD**

The overall study consisted of two studies, a pilot study, and the main study. The purpose of the pilot study was to trial the application that was being used for the web based questionnaires, before conducting the study on a large population. The methodology and results for the pilot study are available from the writer on request. The main study consisted of five treatments and was conducted on a sample of 1249 academics. The methodology used for this study is outlined in this section in addition to information containing the design of the web based and e-mail questionnaires.

### **4.1 Sample**

The sample for the main study was drawn from two sources; firstly, New Zealand and Australia based academics that attended the 1998 ANZMAC conference at Otago University. The second source are staff members of Commerce and Business facilities of 41 academic institutions based in Australia and New Zealand (see Appendix 1 for list of institutions). The sample was limited to academics whose e-mail address were displayed on publicly accessible departmental web sites and which contain a 'mailto:' link which automatically launches an e-mail program when selected. The sample was further limited to staff members whose profiles indicate that they were actively involved in the teaching of courses. This resulted in an overall sample of 1249 respondents, 660 from Australia, and 589 from New Zealand. Both e-mail and physical mail address were obtained for all members of the sample.

#### **4.1.1 Allocation of Sample to treatment groups**

The sample was allocated to nine groups based on the academic area of study. The allocation was based on the name of the department and information contained in any associated profile. The database on ANZMAC conference attendees didn't contain information of academic affiliation, so these respondents were allocated to a separate group.



**Table 5. Size of Academic Groupings**

Group name	Size
Accounting	253
ANZMAC and Unknown	156
Communication	7
Economics	112
Finance	83
Human Resources	65
Management	230
Marketing	70
Public Policy and Tourism	21

The sample has two demographic features, different universities and academic disciplines that may effect the outcome of the study. Academics at different universities may have varying access to computers, and different academic respondents may have different levels of computer usage etc. Another factor influencing the allocation of respondents to the different treatment group was that the sample represented people who have close contact with other sample members, members of the same departments were all allocated to the same treatment. Another factor affecting the allocation of the members of the sample to the treatment is that Treatment Group 1 received a mail version of the questionnaire. The mailing of the questionnaire to Australia would have an affect on the response speed of this group, therefore only respondents who are residing in New Zealand were allocated to this group.

To avoid this from occurring the academic groupings listed in the table above were subdivided into the different universities. Then respondents were allocated to Treatment Group 1 based on their country of origin, university and academic group. The remaining respondents were allocated to treatment groups to ensure that there was no major difference between the treatment groups based on academic groups and universities.



**Table 6. Allocation of Sample to treatments**

Academic Group	Treatment Group1 (mail)	Treatment Group2 (e-mail)	Treatment Group3 (single page web)	Treatment Group4 (multiple web page)	Treatment Group5 (multiple page with validation)
Communication	6	0	1	1	9
Economics	27	42	35	35	30
Finance	23	18	15	15	33
Management	44	41	43	43	33
Marketing	21	21	15	15	21
Human Resources	25	12	13	13	22
Public Policy and Tourism	13	0	4	4	0
Accounting	80	70	68	68	70
ANZMAC	0	46	50	50	54
Total	239	250	244	244	272

Because of the different sizes of departments at different Universities it was not possible to obtain even numbers of respondents for each treatment group

## 4.2 Instrument

The study consisted of five primary questionnaires: A mail questionnaire, E-mail questionnaire, a single continuous page questionnaire, and multiple page questionnaires without data verification, and multiple page questionnaires with data verification. There are a number of differences between the instruments, which are indicated below

- Treatment Group 1: Mail questionnaire, this treatment group will receive a standard mail questionnaire (see Appendix 2).
- Treatment Group 2: E-mail Questionnaire: The E-mail questionnaire treatment group will receive a plain text questionnaire, which will be e-mailed to the respondents as part of the covering letter. The respondents will be required to type an "x" next to the options they choose. (see Appendix 3).

- Treatment Group 3: Single page questionnaire: The single page questionnaire consists of one continuous web page, containing standard HTML fields. Navigation around the questionnaire will be through the use of scroll bars. (see Appendix 4).
- Treatment Group 4: Multiple page questionnaire without data verification. This questionnaire is same as the previous questionnaire with the exception that the questionnaire is divided into individual web pages, one page for each question. Transition between each page is through the use of the submit button. (see Appendix 5).
- Treatment Group 5: Multiple page questionnaire with data verification. A multiple page questionnaire with data verification is the same as the previous questionnaire, however on submission the questionnaire runs a verification program. The verification program determines whether the respondents have answered the question or whether questions are logically valid. If an error occurs respondents are sent to another web page where an error message is displayed. (see Appendix 5).

The five primary instruments were split into two-sub groups, which received different versions of the survey. The difference between the versions is the size of the space available to respondents to reply to open-ended questions was different.

#### 4.2.1 Questionnaire Design.

The questionnaires in the main study consisted of 9 sections and contained 54 questions and 87 responses. The types of questions were as follows.

**Table 7. Type and number of questions**

Question Type	Number of questions
Open ended questions	4
Ranking Questions	3
Lifetree Style Questions	4
Selection from a mutually exclusive list	17
Selection from a non mutually exclusive list	5
Yes/No questions	17
Juster Scale	4

The open end question response area varied in size depending on the sub treatment group. For sub group 1 the open question response area consisted of 5 lines for the small response area and 10 lines for the large text area.

The traditional mail questionnaire consisted of 25 pages, with the e-mail questionnaire consisting of equivalent 16 A 4 pages. The single page questionnaire consisted of three pages, one questionnaire page and welcome and thank you page. The multiple page questionnaires survey consisted of 37web pages of which 35 pages were questions. The remaining two pages contained a welcome and instruction page and a thank you page at the end of the questionnaire.

#### 4.3 Web based Questionnaire Design

The web based questionnaire was developed using Lotus Notes 4.5, which is a program developed to enable distributed users to obtain information from databases, participate in discussion groups, use e-mail and schedule systems. The system is designed to operate within a local area network (LAN) or via the Internet. The program allows secure systems to be established and restrict users to certain areas of the program depending on their security clearance. This project specifically used the database capabilities of Lotus

Notes.

There are a number of differences between standard databases and a Notes database. The difference mainly relates to how the data is stored and displayed to users.

Notes like, most other databases uses forms for the inputting of information to the database, and in this case these forms are converted into web pages to allow them to be displayed on the Internet. With Notes, these forms are also used to store data, which has been inputted, unlike other databases, where data is saved in tables. To allow a form to be viewed over the Internet, Notes converts the form into a web page using JavaScript programming language. These forms are assigned unique names, which form the basis of the URL (Universal Resource Location) for the web page. The remaining part of the web page URL is drawn from the name of the database and web site server address.

#### 4.3.1 Layout of web page questionnaire

Lotus Notes database forms were developed as the basis for the questionnaire web pages. The forms were based around the standard HTML forms fields and standard table layout to ensure that format would remain constant across different computer displays. The use of HTML tables makes it possible to predetermine the width and height of a table and therefore how the information is displayed to potential respondents. The tables used in the questionnaire are based on a set number of pixel's (the smallest element able to be displayed on a computer screen). The maximum width of the table was set at 400 pixels, which is just smaller than the standard screen resolution of 640 by 480. This would enable the table to be displayed by the vast majority of personal computers without the need for scrolling left to right. The size of the table for the multiple page questionnaires would be restricted to 600 pixels high, again to minimise the need for scrolling. Due to the size of some of the individual questions and the number of response options required, some of the multiple page questionnaire's pages required scrolling on low resolution computers (under 640 x 480) or screen size under 15 inches. The scrolling was always not more than a ¼ of page, which depending of the resolution and screen size was

approximately 4 centimetres.

Times Roman font was used for the web based questionnaire with black text on a white background. To ensure that any instructions would stand out from the surrounding text they were coloured red and bold. Both types of web based questionnaires had no in built navigation aids. For the single page questionnaire navigation around the questionnaire was by way of the browser scroll bars. Each of the multiple page questionnaires at the bottom of the single page question had a submit button, which submitted the questionnaire to the database. With the use of the submit button the respondent was effectively giving their permission to forward the questionnaire because they have to make a decision to press the submit button.

4.3.2 Question types and associated fields.

*Open ended questions*

For open-ended questions respondents were required to enter their response to a question into a text box. The size of the text box was determined by the number of columns and rows that is displayed on a standard PC (IBM) based computer, which divides the screen into 80 columns and 25 rows, with each cell created by the rows and columns containing one character. Appendix 10 contains a copy of the different size text boxes and their associated HTML formula. In the case of the pilot study, three different sizes of open-end text boxes were used. For the main study two different text box sizes were used as indicated in the table below.

**Table 8. Sizes of Open-ended question text boxes in the main study**

	Large area	Small area
Web survey	70 columns by 15 rows/lines	70 columns by 5 rows/lines
Mail survey	15 lines	5 lines

The rich text box will automatically display scroll bars if a response exceeds that number of columns or rows that has been pre determined by the researcher.

### *Likert and other scale Questions*

Drop down boxes were used for likert or other scale questions. The formatting of a drop down box is largely determined by the size of the responses. The width of any drop down box is determined by the widest response option in the question, with the height of the box determined by the font size and the number of rows of options that the researcher wants displayed. In this study the drop down boxes were restricted to display the first item in the list. To avoid any possible bias by displaying the first option a placeholder was used. The placeholder's primary purpose was to prevent respondents seeing any of the options in the drop down box until they have selected it. Secondly it was used as a default value for the validation scripts. To avoid drop down boxes covering other text, they were placed to the right hand side of any question.

### *Multiple response questions*

For multiple response questions check box fields were used. Respondents were required to click on the number of responses required to answer the question. It is possible to determine the number of columns that were used to indicate the responses. With this study a single column of responses were used. The sizes of the check boxes are based on a set HTML standard and are unable to be adjusted.

### *Yes/No response questions*

In the case of yes/no response questions, radio button fields were used. These fields automatically restrict the possible response to a single response. As with the check boxes in this study, a single column of radio buttons were used.

### *Skip questions*

With skip questions in the single page web based questionnaires the respondent is presented with similar instructions as found in traditional mail questions. The instructions don't contain any additional visual navigation aids. With the multiple

page questionnaires skip questions are controlled automatically. On submission of the web page containing the skip question the program determines what the response is, and based on that response displays the next appropriate web page. The following formula is used to determine which question should be displayed next.

```
IF(question 1 ="Yes"; QuestionX; QuestionY
```

```
IF Question 1 = True; True; False
```

**Figure 4. Skipped question formula**

#### *Validation of responses*

The validation of questions in the 2<sup>nd</sup> instrument of the pilot study and the 5<sup>th</sup> instrument of main study are conducted at the response field level. Each response field contained an individual formula which was used to determine if the question had been answered. In the case of drop down boxes, the placeholder is used as a default response. A LotusScript formula was used to determine if the response field had been submitted with the placeholder.

```
IF "Questions X"='-' ;Error page; Next question
```

**Figure 5. Drop Down box validation script**

If the placeholder had been submitted then the respondent was sent to the error page instead of the next question (see Appendix 11 for error page). For multiple response questions when using the check box it was not possible to use a default value. For these questions the formula determined whether any response had been selected, if none had

then respondents were sent to the error page.

```
IF "Questions X"=''<blank>';Error page; Next question
```

**Figure 6. Check box validation script**

Similar validation was also carried out for questions that require additional information. With questions where respondents have an 'other' option, they were asked to specify what the 'other' option is. In this case a LotusScript determined if the 'other' option had been selected and then determined whether the respondent had specified the other option as requested. See Figure 7

```
IF'QuestionX'='Other':IF 'Please specify'=' <blank>':Error page 2
```

**Figure 7. Validation for 'Other' option**

This error page (see Appendix 11) is different from the previous one. It shows that the respondent has not indicated what their 'other' option was.

#### **4.4 E-mail Questionnaire**

The e-mail based questionnaire was designed with the restrictions discussed in the literature review. The width of the questionnaire was restricted to 80 characters wide and font used was courier point 12. With all the questions in the e-mail questionnaire respondents were presented a list of the possible responses for each question and were



then required to type an X beside the appropriate response (see Appendix 3). For the open end questions a three line space was used as a visual cue for respondents to type their answer. This space automatically increased as respondents type their responses. Navigation around the questionnaire was through the use of the respondents e-mail package. For the skip questions respondents were provided with two sets of instructions, one at the response level ie No [Go to question X]: and at the bottom of the question ie go to question X on No. Other instructions contained in the questionnaire were highlighted through the use of square brackets. To enter a response in the questionnaire respondents were required to use the reply function of their e-mail program.

#### **4.5 Procedure**

Each of the treatment groups received the same number of contacts, which consisted of the following

- 1st Contact      This consisted of a letter of introduction, identifying the researchers, the research topic and the sponsors of the research. In the case of the 2<sup>nd</sup> Treatment Group the e-mail questionnaire will be placed at the bottom of the e-mail message with instructions on how to completed it. For the remaining treatment groups the e-mail message contained a hyperlink to the web based questionnaires(see Appendix 6)
- 2nd Contact      The second contact was a combination thank-you and reminder letter (see Appendix 7). Depending on the treatment this also contained a hyperlink to the web-based questionnaires, the e-mail version of the questionnaire or a paper version.

3rd Contact    This contact was the final thank-you and reminder letter and also contained a hyperlink to the web site, a copy of the e-mail questionnaire or a paper version of the questionnaire (see Appendix 8).

All three contacts was personally addressed to the respondents and had personal salutations. In the case of the first treatment group the researchers signature was scanned and printed on the letter. The letter was printed on departmental letterhead, indicating that the survey was from a University.

# 5 RESULTS

The purpose of this section is to address the research questions posed earlier in this report.

## 5.1 Response rates

The response rates for the different treatments in the study are indicated in the Table 9. The highest response rate was achieved by Treatment Group 3 (single page web questionnaire) with a response rate of 61.0%. The lowest response rate was for Treatment Group 2 with 12.7%.

**Table 9. Response rates for main studies**

	Treatment 1 (mail)	Treatment 2 (e-mail)	Treatment 3 (single page web)	Treatment 4 (multiple web page)	Treatment 5 (multiple we page with validation)
Sample Size	239	250	244	244	272
GNA	5	14	16	10	13
Useable Responses	117	30	139	109	106
Response Rate	50.0%	12.7%	61.0%	46.6%	40.9%

When examining the individual treatment groups to determine if they were statistically different the following hypothesis was used

Null hypotheses  $P_{tx} = P_{tx}$

Alternative hypotheses  $P_{tx} \neq P_{tx}$

Using these hypotheses it would be necessary to accept the null hypotheses that mail, multiple page web and multiple web page with validation are not statistically different at the 95% confidence level as indicated in the table below. The evidence to support the null hypotheses for the multiple web page questionnaire and multiple web page questionnaire with validation is not that strong, as there is only a small overlap in the

confidence intervals.

**Table 10. Confidence Intervals at the 95% level for response rates for each treatment.**

	Lower C.I.	Response Rate	Upper C.I.
Treatment 1 (mail)	43.7%	50.0%	56.3%
Treatment 2 (e-mail)	8.6%	12.7%	16.8%
Treatment 3 (single page web)	54.8%	61.0%	67.1%
Treatment 4 (multiple web page)	40.3%	46.6%	52.8%
Treatment 5 (multiple web page with validation)	35.1%	40.9%	46.8%
95 % Confidence interval			

The null hypotheses would also have to be accepted for mail and single web page questionnaires, but can be rejected when comparing single web page questionnaires to the remaining treatments. The response rate for the e-mail treatment was extremely low in comparison to the other treatments, which means it is not possible to compare the result because the response is not statistically large enough.

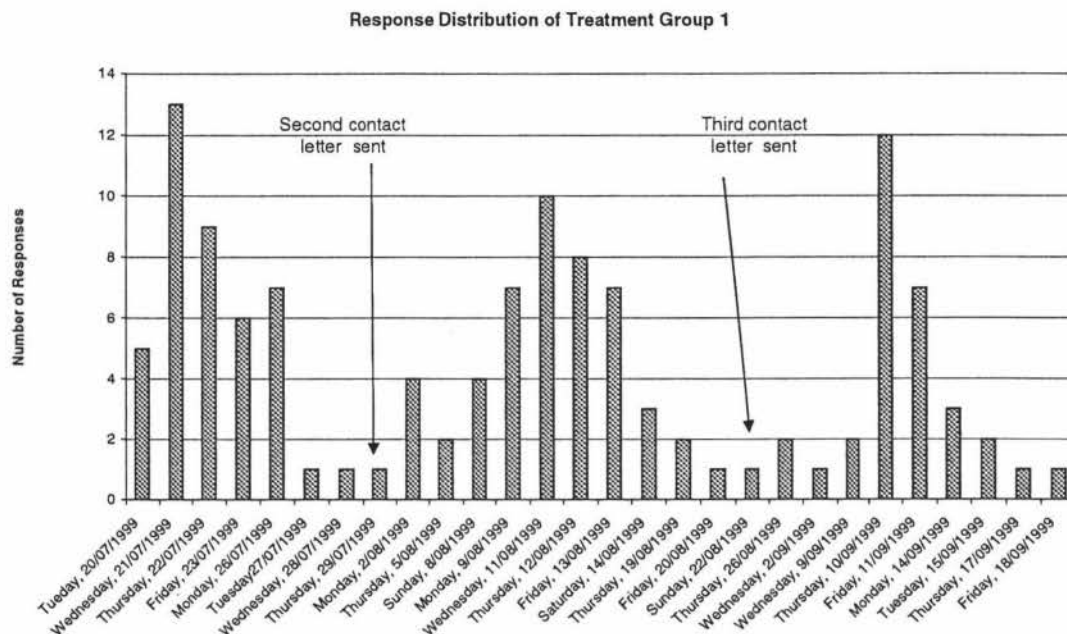
## 5.2 Response Speed

The response speed was calculated based on time it took for responses to level out and to remain constant for more than two days. The response speed for the main study shows that the first Treatment Group (mail based) had the longest response period after contact was made. The fastest response period was the second Treatment Group (e-mail based)

**Table 11. Response speed for different Treatment Groups**

	1 st contact	2 nd Contact	3 rd contact
Treatment 1 (mail)	9 days	8 days	7 days
Treatment 2 (e-mail)	2 days	2 days	1 day
Treatment 3 (single page web)	2 days	4 days	4 days
Treatment 4 (multiple web page)	3 days	3 days	3 days
Treatment 5 (multiple web page with validation)	5 days	3 days	3 days

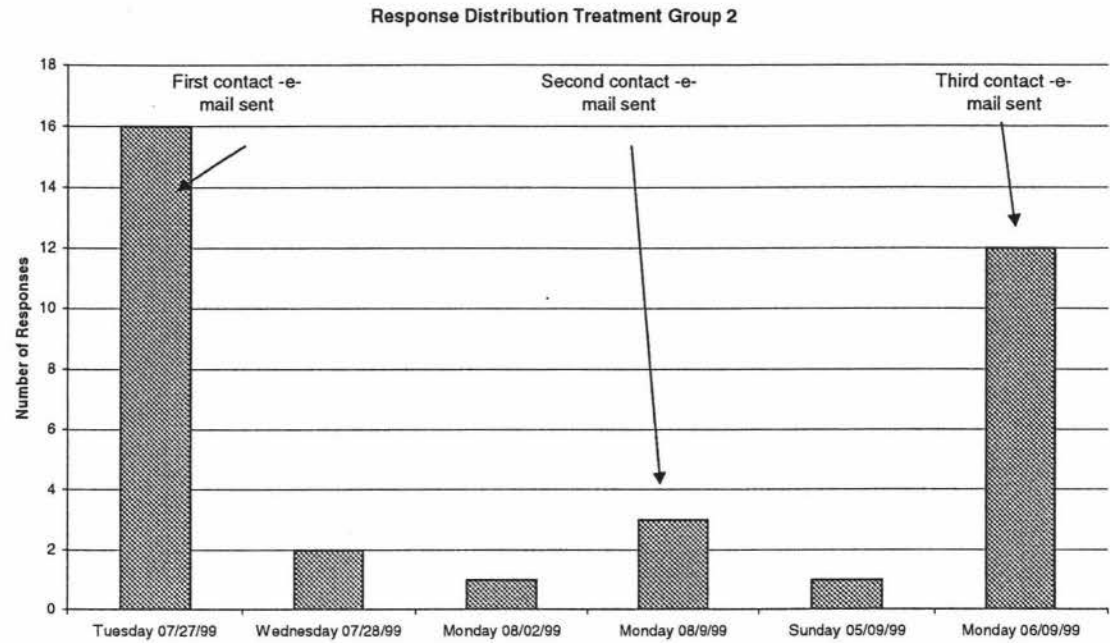
The response distribution patterns for the main study treatment groups are shown in Figure 8 through to 12.



**Figure 8. Response Distribution for Treatment Group 1 (mail)**

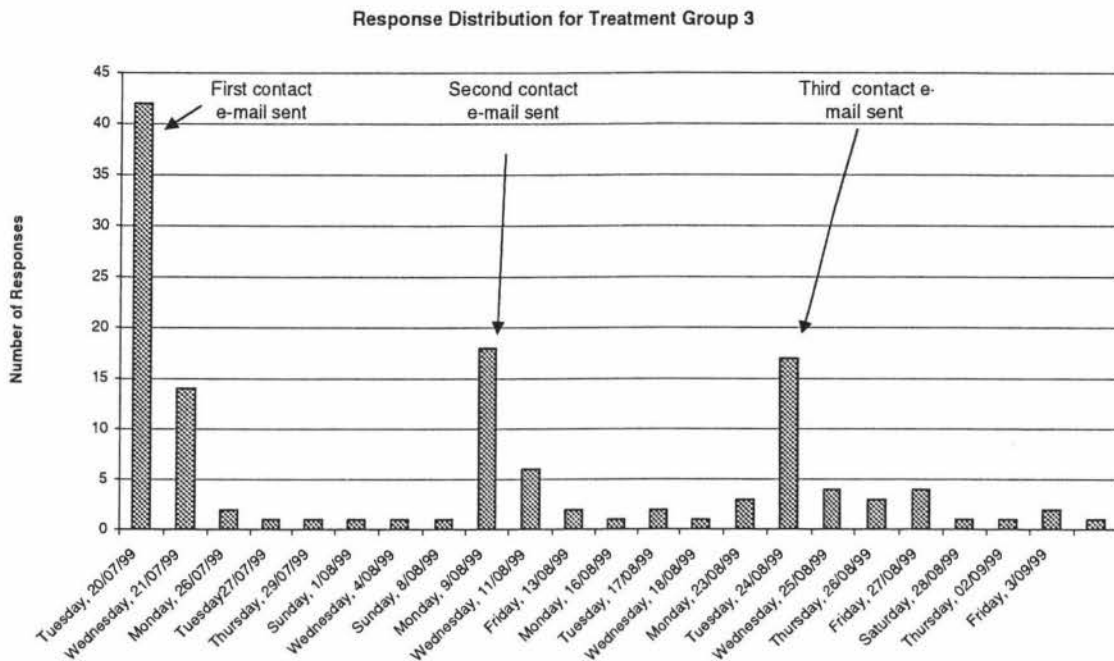
The response distribution for the mail treatment group (see Figure 8) indicates a peak in response approximately eight days after contact is made with respondents which is probably due to the time taken for the letters to be delivery and returned

Unlike the mail treatment the response distribution for the e-mail treatment peaks on the day that contact was made with respondents (see Figure 9).



**Figure 9. Response Distribution for Treatment Group 2 (e-mail)**

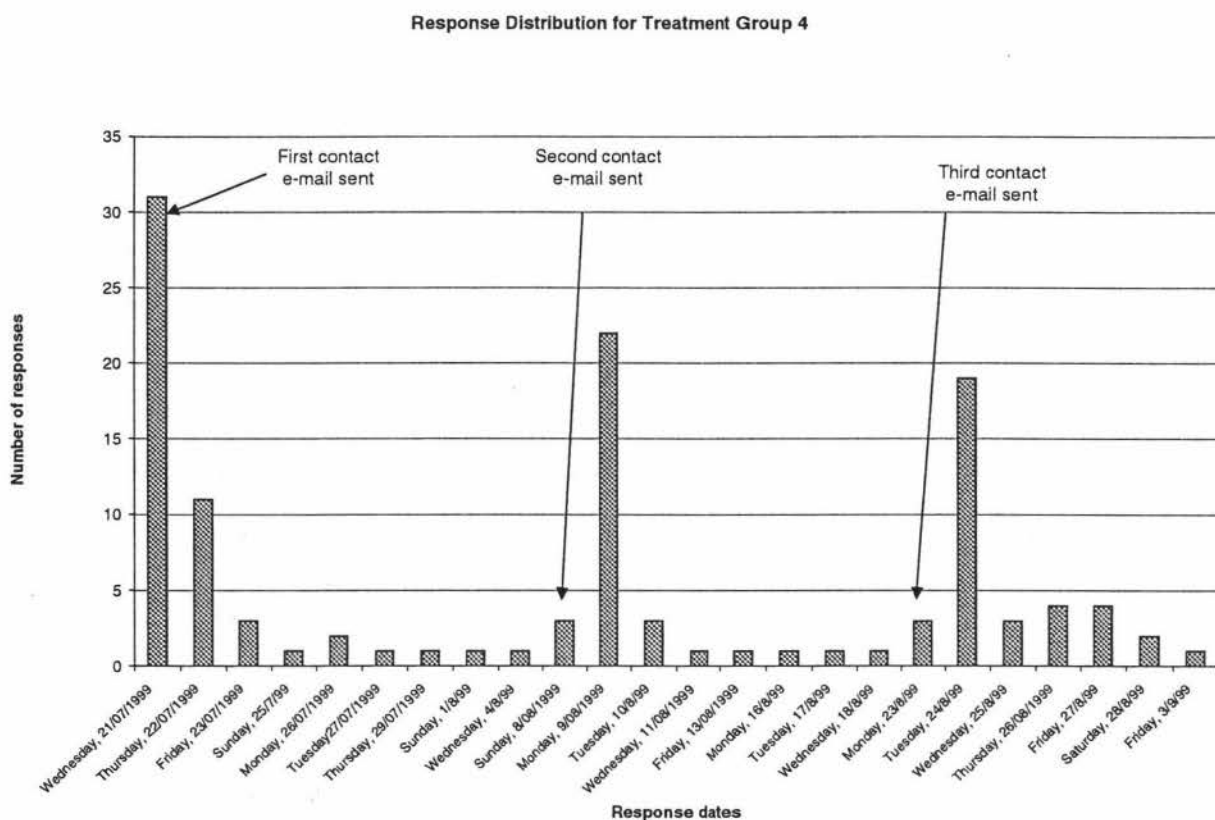
As with the e-mail based questionnaire the majority of responses were received on the date that contact was made with respondents (see Figure 10)



**Figure 10. Response Distribution for Treatment Group 3**

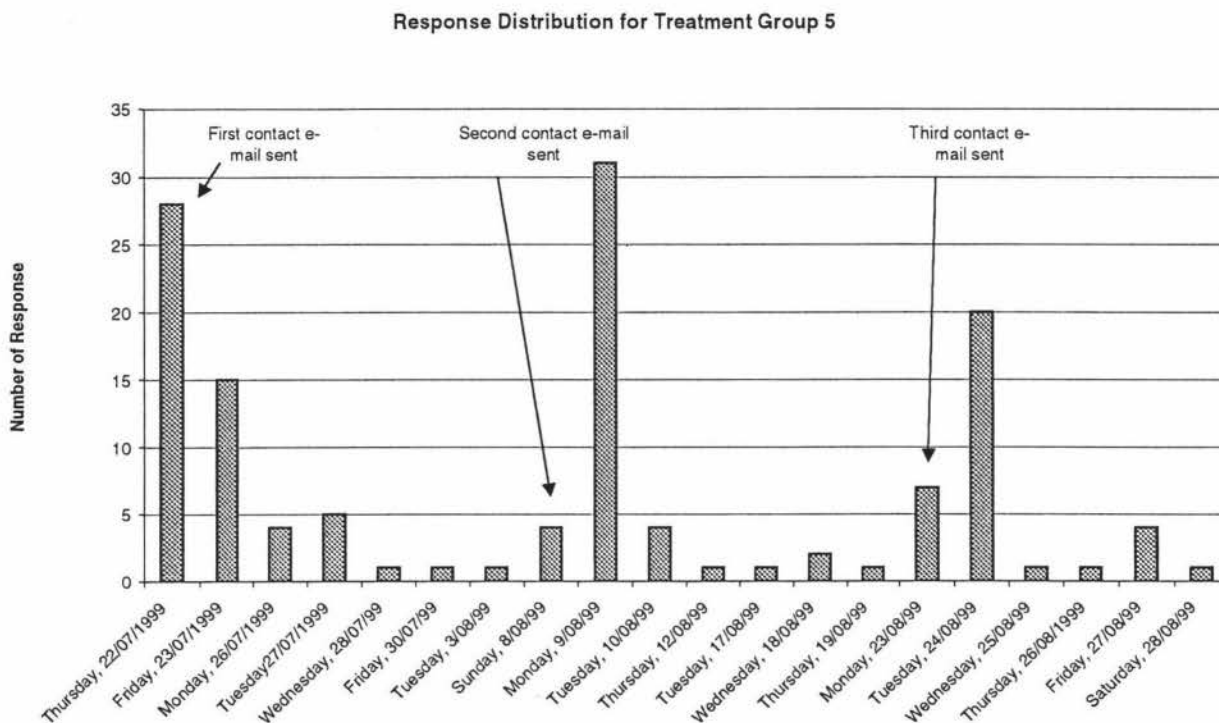


A similar pattern is found in the response distribution of the multiple page web questionnaire (see Figure 11). Once again peaks are on the date that the contact was made with the respondent. It should be noted that the second and third contact letters were sent at 10.30 pm and 9.30pm of the Sunday 8<sup>th</sup> of August and Monday the 23<sup>rd</sup> of August respectively. In both cases a number of responses were received immediately and caused a small peak before the main increase in response rates the following day. A late delivery time was used to ensure that respondents received the e-mail message first thing the next morning, but it appears that some users were online late at night and responded immediately.



**Figure 11. Response Distribution for Treatment Group 4 (multiple web pages)**

As with the previous Treatment Group (multiple web pages) a number of respondents have completed the questionnaire upon receipt (see Figure 12). Again this has resulted in an increase before the major peaks of the second and third contact.



**Figure 12. Response Distribution for Treatment Group 5**

It should be noted that all of the web based treatments show a sharp drop off in responses after the first day.

### 5.3 Data quality

The number of errors committed by respondents completing the questionnaire for Treatment Group 1 (mail) through to Treatment Group 4 is indicated in the Table 12.

**Table 12. Number of errors committed by respondents for Treatment groups 1-4**

	n	Lower CI	Average	Upper CI
Treatment 1 (mail)	674	4.816	5.761	6.705
Treatment 2 (e-mail)	36	0.523	1.200	1.877
Treatment 3 (single page web)	628	3.651	4.518	5.385
Treatment 4 (multiple web page)	579	4.432	5.312	6.192
95% Confidence interval				

The results indicate that there is no significant difference between the different treatment groups.

Because the Treatment Group 5 questionnaires are validated before the data is stored in the database it is not possible to determine the number of errors committed per web page, only that an error has occurred. To compare the difference between all treatment groups, the questionnaires for all treatments groups have been divided into the equivalent web pages as for the treatment group. Table 13 indicates the average number of respondents committing an error per web page or equivalent page.

**Table 13. Opportunity for error.**

	Lower CI	Average error per page	Upper CI	Total No of errors
Treatment 1 (mail)	4.1	6.6	9.1	206
Treatment 2 (e-mail)	0.4	1.0	1.7	32
Treatment 3 (single page web)	5.2	7.6	10.1	236
Treatment 4 (multiple web page)	3.7	5.5	7.2	169
Treatment 5 (multiple web page with validation)	1.8	2.9	3.9	89

## 5.4 Incomplete questionnaires

Table 14 indicates the number of incomplete questionnaires. A questionnaire was considered to be incomplete if the respondent stopped answering questions and didn't recommence or in the case of the multiple page questionnaire only submitted one page of the questionnaire.

**Table 14. Percentage of the respondents that submitted incomplete questionnaires**

	n	Partially Completed questionnaires		
		Lower CI	% of respondents	Upper CI
Treatment 1 (mail)	2	0.76%	0.83%	0.90%
Treatment 2 (e-mail)	4	1.50%	1.60%	1.70%
Treatment 3 (single page web)	15	5.91%	6.10%	6.29%
Treatment 4 (multiple web page)	18	7.19%	7.40%	7.61%
Treatment 5 (multiple web page with validation)	54	19.07%	19.35%	19.63%
Total	93		7.44%	
95% Confidence interval				

The results indicate more respondents tended not to fully complete the multiple page question, but this has some limitations which are discussed in the discussion section

## 5.5 Completion times of questionnaires

The completion times for web based questionnaires are indicated in Table 15. It would appear the multiple page questionnaires took the longest to complete, with multiple page questionnaire with validation being significantly longer to complete then the other questionnaires.

**Table 15. Completion times of Treatment Groups single page web, multiple page web and multiple page web with validation**

	Lower CI	Average	Upper CI
Treatment 3 (single page web)	16 mins	17 mins	18 mins
Treatment 4 (multiple web page)	19 mins	20 mins	21 mins
Treatment 5 (multiple web page with validation)	24 mins	25 mins	26 mins
(95% Confidence interval)			

The completion time respondents estimated it took are also shown below in Table 16.

The majority of respondents appear to have under estimated the time taken to complete the questionnaire.

**Table 16. Respondents estimated completion times of the questionnaire in the main study**

	Less than 5 mins	Between 5 and 10 mins	Between 10 and 15 mins	Between 15 and 20 mins	More than 20 mins
	Number of respondents				
Treatment 1 (mail)	2	49	35	25	7
Treatment 2 (e-mail)	2	8	12	4	0
Treatment 3 (single page web)	0	36	51	36	15
Treatment 4 (multiple web page)	0	5	40	40	24
Treatment 5 (multiple web page with validation)	3	30	41	22	11

## 5.6 Number of words and ideas generate for open-ended questions

Table 17 indicates the number of words and ideas generated by the different sizes of response area for open-ended questions by treatment groups. Because it is not possible to fix the response area for Treatment Group 2, to enable comparison with the web based questionnaire a limited response area is used. However due to the low number of respondents a significant level of words or ideas generate has not been shown.

**Table 17. Comparison of Number of words and ideas generate between the Treatment Groups**

		Small Response area				Large Response Area			
		Lower C I	Average	Upper C I	Completion level	Lower C I	Average	Upper C I	Comple level
Treatment 1	Words	6.48	10.05	13.62	25.0%	14.8	18.7	22.5	23.2%
(mail)	Ideas	1.44	1.95	2.45		2.2	2.6	3.0	
Treatment 2	Words	-	8.23	-	12.7%	-	-	-	
(e-mail)	Ideas	-	1.25	-		-	-	-	
Treatment 3	Words	9.47	18.28	27.08	26.6%	14.7	21.8	28.9	29.9%
(single page web)	Ideas	1.17	2.00	2.83		1.9	2.4	2.9	
Treatment 4	Words	13.46	18.85	24.24	32.4%	13.7	24.3	34.9	31.1%
(multiple web page)	Ideas	1.77	2.18	2.59		2.4	3.1	3.8	
Treatment 5	Words	6.30	14.50	22.70	22.2%	11.7	20.6	29.5	23.2%
(multiple web page with validation)	Ideas	1.02	1.92	2.81		1.5	2.1	2.7	

(95% Confidence interval)

## 6 DISCUSSION

### 6.1 Is there a significant difference in response rates for the difference treatments.

The response rate ranged from 12.7% for e-mail treatment through to 60% for the single page questionnaire. It is difficult to compare the results with other web based and e-mail surveys because of the different methodology used. In the study, respondents were contacted directly unlike a number of other studies where respondents were asked to participate via banner adverts. When comparing the response rates between the different treatment groups it appears that there is no difference between the multiple web page questionnaire and multiple page web questionnaire with validation at the 95% confidence level. However there is a statistical difference between single web page and multiple web page questionnaire and multiple page web questionnaire with validation. This difference could be attributed to the questionnaire design, with respondents having to download a number of web pages with the multiple web page questionnaire and multiple page web questionnaire with validation compared to one page with single web page.

The response rate for Treatment Group 1 (mail) of 50% is not significantly different from the web-based treatments at the 95% level, it is however different to Treatment Group 2 (e-mail), but this can be attributed directly to the very low response rate for this treatment. The response rate for this treatment group is lower than would be expected from a traditional mail based survey using a similar number of contacts. There is no obvious reason for the lower response rate. It is possible that the respondents in this treatment group objected to e-mail surveys and did not participate because of this.

The response rate (12.7%) for Treatment Group 2 (e-mail) is quite low in comparison to other studies using e-mail based questionnaire. One possible reason for the comparatively low response could be the lack of a preliminary notification to respondents. Other studies using e-mail based questionnaires indicated that preliminary notification is important in achieving a high level of responses. With this study Treatment Group 2 (e-mail), e-mail messages were contained in the questionnaire and



this may have had an adverse effect on the response rate, but this cannot be clearly determined from this study. A possible explanation why this didn't appear to have an effect on Treatment Groups 3, 4 and 5 is that for these groups the e-mail contact did not contain the actual questionnaire, but a hyperlink to the web based questionnaire, and this may have acted as a preliminary notification. This explanation would have to be tested further before any definitive conclusion can be drawn.

## **6.2 Is there significant difference in response speed for the different Treatment Groups**

As would be expected, the results indicated that the mail survey had the longest response period after contact was made. The faster response period was the second Treatment Group (e-mail based). Treatment groups 3, 4 & 5 have similar response speed with no significant difference between them. The different electronic based questionnaires also have similar response distribution patterns that indicated definite peaks based around the contact days. The peak for Treatment Group 1 (mail) occurs a number of days after the contact was made with respondents. The result indicates Treatment Group 1 (mail) took 9 days to reduce in comparison to 1 to 2 days with the other treatment groups.

It is important to note that the most important factor in the response speed is the use of e-mail to contact respondents. Unlike mail based questionnaires, e-mail based questionnaires or e-mail messages with hyperlinks to web based questionnaires are delivered to potential respondents immediately. This reduction in delivery time between respondents and researchers appears to have the greatest impact in reducing response speed.

### **6.3 Research Question 4: Is there a significant difference between the levels of data/response quality the difference treatments**

One of the advantages to using web based questionnaires is that drop down boxes and other response fields eliminates the possibility of multiple responses to mutually exclusive questions. Because of this, data quality can only be assessed based on the number of items omitted by respondents

The single page questionnaire has the second highest number of errors, and with the mail having the highest. There is no statistically significant evidence to indicate that single page web based questionnaire contribute to a higher number of errors as Treatment Group 4 errors are not significantly different to Treatment Group 3 at the 95% confidence level. There is also no evidence to indicate that the multiple page web based questionnaires reduce the number of errors committed by respondents, because there are no significant difference between these questionnaires and the traditional mail questionnaire. There is a significant difference between the traditional mail questionnaire and the single page web questionnaire, which may indicate some advantage in using single page web questionnaires in terms of data quality.

A comparison of the number of respondents who committed errors per web page or equivalent also indicated that there was no significant difference between mail and single web page and the multiple web page questionnaire. There is a difference between multiple web page questionnaire with validation and other treatments. This difference could be attributable to a learning effect, which occurred when respondents progressed through the questionnaire. The distribution of the errors indicates that the number of errors reduced throughout the questionnaire, which possibly indicated that respondents learnt that omitting a response results in an error message being displayed and thus ensured that no items were omitted.

#### **6.4 Incomplete questionnaires**

Nineteen percent of multiple web page questionnaire with validation and 7.4% of multiple web page questionnaire respondents did not fully complete the questionnaire. These results indicate that use of multiple page questionnaires could increase the likelihood of partially completed questionnaires. There are a number of factors, which could explain the difference in partially completed questionnaire. One of these factors is that some respondents object to downloading a number of pages and indicated so by contacting the researchers via e-mail. These respondents did indicate that one reason for their objections was the time involved in downloading multiple pages. Another factor that respondents commented on was that it was not possible to determine the length of multiple page questionnaires and this had an influence on completing the survey. The problem of questionnaire length would be difficult to overcome because of the adaptive nature of multiple page questionnaires. With this type of questionnaire respondents are only displayed pages that relate to them in some way as the questionnaire adapts to responses previously submitted by respondents. Therefore respondents could skip whole sections of the questionnaire, as was the case in the study. The adaptive nature means that questionnaire can differ from respondent to respondent and the length is determined by the individual responses. These factors could explain some of the difference between Treatment Group 3 and Treatment Group 4, but further study is required for a definitive answer.

Another reason for the high level of incomplete questionnaire can also be attributed to problems with the Lotus Notes databases. Lotus Notes allows for several copies of the same database to be held on different workstations and the main web server. To maintain the same version of the database on various computer Lotus Notes periodically replicates the database across all the computers. This feature was disabled during the period of the study to ensure that replication wouldn't occur. But during the period of the study the main server was accidentally turned off which resulted in the Notes seeking out other versions of the database and replicating to the main server automatically. This resulted in an old and partially completed database replacing the main database on the server.

Unfortunately the power outage occurred the weekend before the second contact was made with respondents and resulted in the wrong database being accessed by respondents. Respondents were able to complete the questionnaire through to question 15 and were unable to proceed further, a number notified the researcher and the correct database was placed back on the web server the morning that second contact was made. This problem only affects the questionnaire for Treatment Group 5 and is responsible for 20 incomplete questionnaires.

As already indicated there were a high number of incomplete questionnaires for web based questionnaire. It is important to note that Treatment Group 1 (mail) may have had the same level of incomplete questionnaires, but it is impossible to record accurately the number of incomplete questionnaires for a mail based survey. Therefore it not possible to determine whether web based questionnaires result in more incomplete questionnaires, than other types of questionnaires.

## **6.5 Completion times**

The results of the main study indicate that there is a significant difference in the completion time between web based questionnaires (Treatment Groups 3, 4 & 5). The single web page questionnaire has the fastest recorded completion time, compared to the other web based treatments. There is a significant difference between the two multiple page questionnaires, which could be the result of the validation program associated with Treatment Group 5. Because the validation program is server side based, web pages are submitted to the server before validation takes place, then depending on the result the next the next page is displayed. The time taken to complete this process can vary depending on network connection speeds. Also if an error has been committed then an error page is displayed to respondent. Respondent then have to return to the page were the error occur to fully complete the question. This can increase the time taken to complete the questionnaire.

Respondents were asked to estimate how long it took to complete the questionnaire.

From this question respondents indicated that mail questionnaire (Treatment Group 1) was the quickest to complete with 42% of the respondents stating it took between 5 –10 mins to complete the questionnaire. With the remaining treatment groups the majority of respondent's estimate that the questionnaire took between 10-15 minutes to complete. As with the pilot study respondents tended to underestimate the time taken to complete the questionnaires. It is not possible to quantify the reason for this difference, but it could be hypothesised that respondents believed that the electronic based questionnaire was quicker because it is computer based and not the traditional pen and paper. This may have an affect on completion rates for this type of questionnaire as completion time may be a factor in respondents deciding to complete the questionnaire, but further research would have to carried out to determine this.

## **6.6 Open end questions**

There is no evidence to suggest that the web based questionnaire in this study generates more words and ideas than the traditional mail based questionnaire. In comparison to mail surveys the average number of words appears to be higher than that reported by Mehta(1994) and Schafer and Dillman(1998) but this increased number of words is also reflected in the mail based treatment. Although there is no significant difference it would appear that respondents tend to write more on electronic based questionnaires when compared to mail based questionnaires.

As reported there are no significant differences in the number of words generated for different text areas for the different web based treatments. It would appear that the size of the text box displayed to the respondents doesn't have an effect on the respondents. This may be due to the feature incorporated in text boxes to automatically scroll when the area is full, which effectively removes any limitation, which the respondent may have been aware of. The difference between text areas for Treatment Group 1 (mail) does appear to have an effect and is significantly different. This possibly supports the conclusion above as respondents were more aware of the limitations with paper based questionnaires than web based questionnaires.

## 6.7 Other Issues

Another issue that needs to be discussed regarding this study is the use of Lotus Notes as a method of conducting this survey. The use of the database does have a number of advantages in terms of easy access to the collected data, ease of constructing web pages etc. But there are problems associated with the use of the database application such as Lotus Notes. The problems are associated with the way that respondents (known as the client) and the researcher's database (known as the server) interact. With database applications processing and validation of information taking place on server side which means respondents are required to send information to the server before any processing of validation can take place. This can have an effect on the time taken to complete a questionnaire and can cause problems such as 'timing out' resulting in a possibly incomplete survey. To avoid this problem it is possible to complete validation on the client side using Javascript programming, but there is some limitation to this method in terms that any error etc will not be recorded because the validation takes place on the respondents computer. The advantage to this process is that completion time is reduced as there is no delay sending and receiving information to the server.

## 7 CONCLUSIONS

### 7.1 Conclusions

The purpose of this study was to examine a number of issues surrounding the use of new technology for conducting surveys, and to determine whether some of the techniques that have been developed for traditional mail could be applied to surveys using new technology.

The study compared different methods of conducting web based survey(single page questionnaires; multiple page questionnaires with and without validation); and an e-mail to mail survey and arrives at the following conclusion to the research questions posed in the report;

- There is no significant difference in response rate between the mail survey ( $50.0\% \pm 6.3\%$  at 95%C.I), and the multiple page web survey without validation ( $46.6\% \pm 6.3\%$  at 95%C.I) and the multiple page web survey with validation ( $40.9\% \pm 5.8\%$  at 95%C.I). However there is a significant difference between the single page survey ( $61.0\% \pm 6.2\%$  at 95%C.I) and the mail survey. This appears to be due to the problems associated with downloading a number of web pages, with the single page survey being easier to download. There a significant difference between the e-mail questionnaire( $12.7\% \pm 4.1\%$  at 95%C.I) and other treatment groups. This appear to be direct result of the low response rate of the e-mail questionnaire, which was statistically small with only 30 responses.
- Electronic based survey result in a faster response speed than mail based questionnaires. It took 9 days for the number of responses to level out for the mail survey after the first contact with respondents. For the e-mail and single page web questionnaires it took only 2 days respectively. The multiple page questionnaire without validation and multiple page questionnaire with validation



took 3 and 5 days respectively.

- There is no significant difference in the number of items omitted in the multiple page web-based questionnaire (without validation) and the mail surveys. There was a significant difference in omission between the single web page surveys and the mail survey. It would appear that it is not possible to conclude that web pages questionnaire resulted in less omission error than traditional methods, but the ability to restrict response to mutually exclusive questions mean that web based questionnaires out-perform a mail survey in terms of data quality.
- There is no evidence to suggest that displaying a limited number of questions at a time reduces the number of omitted items. Single web page questionnaire had an average of 4.518 error ( $\pm 0.867$  at 95% C.I) compare to 5.312( $\pm 0.88$  at 95% C.I) for multiple web page without validation.
- The use of multiple page questionnaires ( $7.40\% \pm 0.21$  of respondents for the multiple web page without validation and  $19.35\% \pm 0.28$  of responses for the multiple web page with validation) are likely to increase the number of partially completed questionnaires in comparison to single page web based questionnaires ( $6.10\% \pm 0.19\%$  of respondents).
- The use of a validation program with a multiple page questionnaire is likely to increase the number of partially completed questionnaires ( $19.35\% \pm 0.28$ ) when compared to multiple page questionnaires without validation ( $7.40\% \pm 0.21$ ).
- The downloading of multiple page questionnaires affects the completion time of web based questionnaires. The use of validation programs also has an effect on completion times.
- Based on this study there is no evidence to indicate that open-ended question in web based questionnaires generate significantly more words or ideas than in a

mail questionnaire (Treatment Group 1). Also, the use of difference size text areas for open end questions on web based questionnaires appears to have no effect on the number of words or ideas generated.

Overall it would appear that from this study there are a number of advantages in using web based and e-mail questionnaires in terms of their response speed. If researchers require a fast result from their survey then the use of web and e-mail survey is important. However it would appear the web based questionnaire is superior to e-mail questionnaire and should be the first choice for researchers looking at conducting survey using electronic methods, because of the limitation associated with e-mail formatting and restrictions in the type of characters that can be displayed. The web based questionnaire are able to display images and use html response fields which can reduce potential respondent error.

The use of validation with web-based questionnaire does improve the quality of the data that the researcher receives, but at a cost in terms of the level of incomplete questionnaires, which appears to increase using validation. Researchers will also have to examine the possible side effects of using multiple page questionnaires without validation as they are also affected by this problem of incomplete questionnaire.

As indicated there are still a number of problems associated with using web based surveys, which could be considered to be in its infancy in comparison to traditional mail surveys which have been tested and refined over a number years. It would appear that more research is required before the web based survey can be placed on the same footing as mail survey, but with huge strides in technology that is occurring it appears that eventually web based surveys could see traditional mail surveys being made redundant.

## **7.2 Limitations**

There are a number of limitations with this study. Firstly the poor result of the e-mail treatment group means that it is difficult, or if not impossible to draw any worthwhile

conclusions from that treatment except that it is not an effective survey vehicle. Another limitation is that members of the sample could be considered to be more computer literate than the general population. Also, the overall response rate for the study is low which may affect the results. It should also be noted that this is one study and the results have yet to be replicated and therefore should be treated as preliminary results.

### **7.3 Directions for Future Research**

There are a number of directions for future research in this area, which could be focused in two main areas. Firstly, replication of this study, with extensions, to determine whether the use of incentives and other techniques would improve response rates and response speed. It would also be necessary to replicate the study with a sample drawn from another population in order to generalise the results of this study.

Secondly, the development of web based technology is occurring at rapidly, with new developments in web page design being announced on a regular basis. Some of the developments are directly applicable to some of the problems faced in this research. Development of "layers" within one web page eliminates the requirement to download multiple pages. Instead of downloading several web pages Internet users can download one page, which contains several layers, that can be hidden or displayed depending on the design of the web page. Therefore it is possible to develop a multiple page questionnaire, which is contained on a single web page, which would reduce problems caused by slow download times. Currently the number of users with browsers that can process layers is limited, but this number is increasing dramatically as more people adopt the latest browsers.

The potential for conducting research via the web is huge, but it is important that further research is conducted to establish solid methodological approaches to conducting this type of research.

## 8 REFERENCES

- Antin, T. (1993). *Great Print Advertising*. New York: John Wiley.
- Armstrong, J. S. (1975). Monetary Incentives in Mail Surveys. *Public Opinion Quarterly*, 39(Spring), 112-116.
- Bachmann, D., Elfrink, J., & Vazzana, G. (1996). - Tracking the progress of E-mail vs. snail-mail. *Marketing Research: a Magazine of Management & Applications*, 8(2), 30-35.
- Bataglj, Z., & Vehovar, V. (1998). Technical and Methodological Issues in WW W surveys. *53rd Conference of the American Association of Opinion Researchers*. Retrieved 14-17 May 1998 from the World Wide Web: St Louis MO
- Bauman, S., Airey, J., & Atak, H. (1998). Effective Use of Web-based Technology: Using the internet for data collection and communication applications. *53 Conference of the American Association for Public Opinion Research*. Retrieved May 14-17 1998 from the World Wide Web: St Louis MO
- Brennan, M. (1997). The Effect of Question Tone on Responses to Open-Ended Questions. *Marketing Bulletin*, 8, 66-72.
- Brennan, M., Hoek, J., & Astridge, C. (1991). - The Effects of Monetary Incentives on the Response Rate and Cost-Effectiveness of a Mail Survey. *Journal of the Market Research Society*, 33(3), 229-241.
- Bytheway, S. (1998). HTML forms processing tutorial menu. *University of Utah*. Retrieved 18/08/98 from the World Wide Web: <http://www.usi.utah.edu/bin/cgi-forms/counter.pl/cgi-forms/intro.html>
- Carpenter, E. H. (1974-75). Personalising Mail Surveys: A Replication and Reassessment. *Public Opinion Quarterly*, 38, 614-620.
- Chebat, J., & Cohen, A. (1993) Response Speed in Mail Surveys: Beware of Shortcuts *Marketing Research* 5(2) 20
- Chiu, I., & Brennan, M. (1990). The Effectiveness of Some Techniques for Improving Mail Survey Response Rates: A Meta-analysis. *Marketing Bulletin*, 1, 13-19.

- Comley, P. (1996). The use of the Internet as a data collection method. Retrieved from the World Wide Web 21/7/98: <http://www.sga.co.uk/esomar.html>
- Corporate Author. (1998). Spam. *P C Webopaedia*. Retrieved 14/07/98 from the World Wide Web: <http://www.pcwebopedia.com/spam.htm>
- de Leeuw, E. D., Hox, J. J., & Snijders, G. (1995). - The effect of computer-assisted interviewing on data quality. A review. *Journal of the Market Research Society*, 37(4), 325-344.
- Dickinson, J. R., & Faria, A. J. (1995). - Refinements of charitable contribution incentives for mail surveys. *Journal of the Market Research Society*, 37(4), 447-453.
- DigiCash. (1997). An Introduction to How ecash works. *DigiCash Inc.* Retrieved 9/8/98 from the World Wide Web: <http://www.digicash.com/ecash/ecash.html>
- Dillman, D. A. (1972). Increasing Mail Questionnaire Response in Large Samples of the General Public. *Public Opinion Quarterly*, 36(Summer), 254-257.
- Dillman, D. A., & Frey, J. H. (1974). Contribution of Personalisation to Mail Questionnaire Response as an Element of a Previously Tested Method. *Journal of Applied Psychology*, 59, 297.
- Dillman, D.A., Christenson, J. A., Carpenter, E.H., & Brooks, R.M. (1974) Increasing Mail Questionnaire Response: A Four State Comparison. *American Sociological Review*, 39 (October) 744-756
- Dohrenwend, B. S. (1965). Some effects of Open and Closed questions on respondent answers. *Human Organisations*, 24, 175-184.
- Dreze, X., & Zufryden, F. (1997). - Testing Web site design and promotional content. *Journal of Advertising Research*, 37(2), 77-91.
- Findlater, A., & Kottler, R. E. (1997). Validating the Application of Web Interviewing using a comparative study on the telephone. *Quantime Ltd.* Retrieved 18/08/98 from the World Wide Web: [http://www.quantime.com/web\\_bureau/knowledge/](http://www.quantime.com/web_bureau/knowledge/)
- Ford, M. (1967) The Advance Letter in Mail Surveys *Journal of Marketing Research* (7) 202-204

- Frost, F. (1998). *Electronic Surveys - New Methods of primary data collection*. Paper presented at the EMAC Conference 1998
- Gajraj, A. M., Faria, A. J., & Dickinson, J. R. (1990). - A Comparison of the Effect of Promised and Provided Lotteries, Monetary and Gift Incentives on Mail Survey Response Rate, Speed and Cost. *Journal of the Market Research Society*, 32(1), 141-162.
- Gendall, P., Menelaou, H., & Brennan, M. (1996). Open-end Questions: Some Implications for Mail Survey Research. *Marketing Bulletin*, 7, 1-8.
- Goodstadt, M. S., Chung, L., Kronitz, R., & Cook, G. (1977). Mail Survey Response Rates: Their Manipulation and Impact. *Journal of Marketing Research*, 14, 391-395.
- Hanson, R. A. (1980) A Self -Perception Interpretation of the Effects of Monetary and Non Monetary Incentives on Mail Survey Respondent Behaviour. *Journal of Marketing Research Society* 17 77-83
- Harvey, L. (1987). - Factors Affecting Response Rates to Mailed Questionnaires: A Comprehensive Literature Review. *Journal of the Market Research Society*, 29(3), 341-353.
- Heberlein, T. A., & Baumgartner, R. (1978). Factors affecting response rates to mailed questionnaires: A quantitative analysis of the published literature. *American Sociological Review*, 43, 447-462.
- Houston, M.J., & Nevin, J.R. (1977) The Effects of Source and Appeal on Mail Survey Response Patterns *Journal of Marketing Research* 14(3) 374
- Houston, M.J., & Ford, N.M. (1976) Broadening the Scope of Methodological Research On Mail Surveys. *Journal of Marketing Research* 13(4) 397
- Jaworski, J. (1997). *Mastering JavaScript*. San Francisco: Sybex.
- Jenkins, C.R., & Dillman, D. A. (1997) Towards a theory of self-administered questionnaire design In L.Lyberg, P.Biemer, M.Collins, E. De Leeuw, C. Dippo, N.Schwarz & D.Trewin (Eds), *Survey Measurement and Process Quality*. New York: John Wiley & Sons.

- Jobber, D., & Sanderson, S. (1983). The Effects of a prior letter and coloured questionnaire paper on mail survey response rates. *Journal of the Market Research Society*, 25, 339-349.
- Kanuk, L., & Berenson, C. (1975) Mail Surveys and Response Rates; A literature Review. *Journal of Marketing Research* (7) 440-453
- Kalafatis, S. P., & Madden, F. J. (1995). - The effect of discount coupons and gifts on mail survey response rates among high involvement respondents. *Journal of the Market Research Society*, 37(2), 171-184.
- Kehoe, C., Pitkow, J., & Rogers, J. (1998). GVU's 9th WWW User Survey. *Graphic, Visualization, & Usability Center's*. Retrieved 20/10/98 from the World Wide Web: [http://www.cc.gatech.edu/gvu/user\\_surveys/survey-1998-04/#highsum](http://www.cc.gatech.edu/gvu/user_surveys/survey-1998-04/#highsum)
- Kiesler, S., & Sproull, L. S. (1986). - Response Effects in the Electronic Survey. *Public Opinion Quarterly*, 50(3), 402-413.
- Kottler, R. E. (1997). Web Surveys- The Professional Way. *Advertising Research Foundation*. Retrieved April 1997 from the World Wide Web: New York
- Mc Daniel, S.W., & Rao, C.P. (1981) An Investigation of Respondent Anonymity's Effect on Mailed Questionnaire Response Rate and Quality *Journal of the Market Research Society* 23(3) 150
- Mehta, A. (1994). - How advertising response modeling (ARM) can increase ad effectiveness. *Journal of Advertising Research*, 34(3), 62-74.
- Mehta, R., & Sivadas, E. (1995). - Comparing response rates and response content in mail versus electronic mail surveys. *Journal of the Market Research Society*, 37(4), 429-439.
- Morphew, C. C., & Williams, A. N. (1998). *Using Electronic Mail to Survey Undergraduates: Pitfalls and Possibilities*. Paper presented at the Association for Institutional Research 1998 Forum, Minneapolis.
- Mullin, P. A. (1998). Innovations and Insights in the Design of Web-Based Surveys. *American Association of Public Opinion Research Conference*. May 1998 St Louis



- Nielsen, J. (1997). Changes in Web Usability since 1994. *Use it*. Retrieved 23/8/98 from the World Wide Web: <http://www.useit.com/alertbo/9712a.html>
- Oppermann, M. (1995). - E-mail surveys - Potentials and pitfalls. *Marketing Research: a Magazine of Management & Applications*, 7(3), 28-33.
- Parker, L. (1992). - Collecting Data the E-Mail Way. *Training & Development*, 46(7), 52-54.
- Parsons, R. J., & Medford, T.S., (1972). The Effect of Advance Notice in Mail Surveys of Homogeneous Groups. *Public Opinion Quarterly*, 36(Summer), 258-259.
- Pitkow, J.E., & Recker M.M. (1995) Using the Web as a Survey Tool: Results from the Second WWW User Survey. *Journal of Computer Networks and ISDN systems* 27(6) Retrieved 20/8/99 from the World Wide Web: [http://www.cc.gatech.edu/gvu/user\\_surveys/papers/survey\\_2\\_paper.html](http://www.cc.gatech.edu/gvu/user_surveys/papers/survey_2_paper.html)
- Roscoe, A.M., Lang, D., & Sheth, J. N (1975) Follow up Methods , Questionnaire Length, and Market Differences in Mail Surveys. *Journal of Marketing* 39 20-27
- Schaefer, D. R., & Dillman, D. A. (1998). *Development of a Standard E-mail Methodology: Results of an Experiment*. Paper presented at the American Association for Public Opinion Research, St Louis.
- Schmidt, W.C. (1997). World-Wide Web Survey Research: Benefits, Potential Problems, and Solutions. *Behavior Research Methods, Instruments & Computers*, 29 (2) 274-279
- Schuldt, B. A., & Totten, J. W. (1994). - Electronic mail vs. mail survey response rates. *Marketing Research: a Magazine of Management & Applications*, 6(1), 36-39.
- Stafford, J. E. (1966). Influenncce of Preliminary Contact of Mail Return. *Journal of Marketing Research*, 3(November), 410-411.
- Sproull, L. S. (1986). - Using Electronic Mail for Data Collection in Organisational Research. *Academy of Management Journal*, 29(1), 159-169.
- Taylor, S., & Lynn, P. (1998). The Effect of a Preliminary Notification Letter on Reponse to a Postal Survey of Young People. *Journal of the Market Research Society*, 40(2), 165-173.

- Tse, A., Ching, R., Ding, Y.-B., Fong, R., & et al. (1994). - A comparison of the effectiveness of mail and facsimile as survey media on response rate, speed and quality. *Journal of the Market Research Society*, 36(4), 349-355
- Tinker, M. A. (1965). *Bases for Effective Reading*. Minneapolis: University of Minnesota.
- Walker, B. J., & Burdick, R. K. (1977). Advance Correspondence and Error in Mail Surveys. *Journal of Marketing Research*, 14(August), 379-382.
- Warriner, K., Goyder, J., Gjertsen, H., Hohner, P., & McSpurren, K. (1996). - Charities, No; Llotteries, No; Cash, Yes: Main Effects and Interactions in a Canadian Incentives Experiment. *Public Opinion Quarterly*, 60(4), 542-562.
- White, G. K. (1996). An On-line Survey of Food and Beverage Consumers on the Internet: An Evaluation of the Survey Methology. *Marketing Research On-Line*, 1, 39-59.
- Wilson, R. F. (1998). 7 Debilitating Diseases of Business Websites (and their cures). *Web Marketing Today*. Retrieved 1/2/1998 from the World Wide Web: <http://www.wilsonweb.com/articles/7diseases.htm>
- Yammarino, F. J., Skinner, S. J., & Childers, T. L. (1991). - Understanding Mail Survey Response Behavior: A Meta-Analysis. *Public Opinion Quarterly*, 55(4), 613-639.

**9 APPENDICES**

## Appendix 1. List of Academic Institutions

University	Sample
Auckland Institute of Technology	3
Charles Sturt University	3
Curtin University of Technology	84
Deakin University	78
Edith Cowan University	40
Griffith University	39
La Trobe University	45
Lincoln University	42
Macquarie University	1
Manakau Business School	1
Manukau Institute of Technology	2
Massey University	130
Melbourne Business School	3
Monash University	109
Moreton Business School	1
Murdoch University	4
Nelson Polytechnic	1
Otago University	107
Queensland University of Technology	110
RMIT University	4
Southern Cross University	1
The University of Melbourne	3
Unitec Institute of Technology	2
University of Adelaide	2
University of Auckland	119
University of Canterbury	19
University of Melbourne	2
University of New South Wales	13
University of Newcastle	36
University of Queensland	5
University of South Australia	11
University of Southern Queensland	6
University of Sydney	4
University of Tasmania	1
University of Technology Sydney	2
University of Western Australia	66
University of Western Sydney	2
University of Wollongong	5
Victoria University	102
Waikato University	83
	1291

### Appendix 3 Mail Questionnaire version 1 and verison 2

CONFIDENTIAL

## SURVEY ON ACADEMIC USE OF INFORMATION TECHNOLOGY

---

Please answer the following questions by ticking on the appropriate answer option, or by writing in the space provided.

---

**COMPUTER USE AT WORK**

1. Which of the following apply to your work situation?

PLEASE TICK ONE BOX ONLY

- |  |                            |
|--|----------------------------|
| I have a computer in my office for my sole use       | <input type="checkbox"/> 1 |
| There is a computer in my office I share with others | <input type="checkbox"/> 2 |
| There is a computer in my building I can use         | <input type="checkbox"/> 3 |
| I don't have access to a computer at work            | <input type="checkbox"/> 4 |

2. Now I would like to ask you some questions about the computer you have access to at work.

PLEASE TICK ONE BOX ONLY FOR EACH QUESTION

- a) What is the main type of computer you have access to at work?

- |         |                            |
|---------|----------------------------|
| Laptop  | <input type="checkbox"/> 1 |
| Desktop | <input type="checkbox"/> 2 |

b) What operating system are you running?

Windows 3.1

☐ 1

Windows 95

☐ 2

Windows 98

☐ 3

Windows NT

☐ 4

Windows C.E.

☐ 5

Mac OS 7.X

☐ 6

Mac OS 8.X

☐ 7

Linux

☐ 8

Other

☐ 9

IF OTHER PLEASE SPECIFY \_\_\_\_\_

c) What is the main Internet browser that you use?

Internet Explorer 3 or earlier

☐ 1

Internet Explorer 4.X

☐ 2

Internet Explorer 5.X

☐ 3

Netscape Navigator 3 or earlier

☐ 4

Netscape Communicator 4.0

☐ 5

Netscape Communicator 4.5

☐ 6

Other

☐ 7

IF OTHER PLEASE SPECIFY \_\_\_\_\_

d) Does your computer have a CD-ROM?

Yes

☐ 1

No

☐ 2

e) Does your computer have a DVD (Digital Video Disk) Drive?

Yes

☐ 1

No

☐ 2



f) Does your computer have a sound card?

Yes

☐ 1

5

No

☐ 2

g) Do you have a microphone that can be plugged in to your computer?

Yes

☐ 1

6

No

☐ 2

3. Is your work computer connected to the Internet?

Yes

☐ 1

7

No

☐ 2

IF **NO** PLEASE GO TO QUESTION 5 OTHERWISE CONTINUE

4. Do you connect to the Internet via the University computer network or an independent Internet Service Provider (ISP)?

University Computer Network

☐ 1

8

Independent Internet Service Provider

☐ 2

Other

☐ 3

IF OTHER PLEASE SPECIFY \_\_\_\_\_

5. What is the average number of hours per week you would spend on a computer, **at work**, for work purposes?

0-5  
☐ 1

6-9  
☐ 2

10-14  
☐ 3

15-19  
☐ 4

20-24  
☐ 5

25-29  
☐ 6

30-34  
☐ 7

35-39  
☐ 8

40+  
☐ 9

9

6. What is the average number of hours per week you would spend on a computer, **at work**, for personal purposes?

0-5	6-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9

10

### COMPUTER USE AT HOME

Now I would like to ask you about computer usage at home.

7. Do you have a computer at home?

Yes

☐ 1

11

No

☐ 2

IF **NO** PLEASE GO TO QUESTION 15 OTHERWISE CONTINUE

8. Is your home computer privately owned, or university property?

Privately owned

☐ 1

12

University property

☐ 2

Other

☐ 3

IF OTHER PLEASE SPECIFY \_\_\_\_\_

9. What is the main type of computer you have access to at home?

Laptop

☐ 1

13

Desktop

☐ 2

a) What operating system are you running?

Windows 3.1

☐ 1

Windows 95

☐ 2

Windows 98

☐ 3

Windows NT

☐ 4

Mac OS 7.X

☐ 5

Mac OS 8.X

☐ 6

Linux

☐ 7

Other

☐ 8

IF OTHER PLEASE SPECIFY \_\_\_\_\_

b) Does your computer have a CD-ROM?

Yes

☐ 1

No

☐ 2  
☐

c) What is the main Internet browser that you use?

Internet Explorer 3 or earlier

☐

Internet Explorer 4.X

☐ 3

Internet Explorer 5.X

☐ 3

Netscape Navigator 3 or earlier

☐ 4

Netscape Communicator 4.0

☐ 5

Netscape Communicator 4.5

☐ 6

Other

☐ 7

IF OTHER PLEASE SPECIFY \_\_\_\_\_

1.

12

13

d) Does your computer have a DVD (Digital Video Disk)?

Yes

☐ 1

14

No

☐ 2

e) Does your computer have a sound card?

Yes

☐ 1

15

No

☐ 2

f) Do you have a microphone that can be plugged in to your computer?

Yes

☐ 1

16

No

☐ 2

10. Is your home computer connected to the Internet?

Yes

☐ 1

17

No

☐ 2

IF **NO** PLEASE GO TO QUESTION 14 OTHERWISE CONTINUE

11. Is your Internet connection paid for privately, or by your department?

Privately

☐ 1

By the University

☐ 2

18

Other

☐ 3

IF OTHER PLEASE SPECIFY \_\_\_\_\_

12. Do you connect to the Internet via the University computer network or an independent Internet Service Provider (ISP)?

University Computer Network

☐ 1

19

Independent Internet Service Provider

☐ 2

13. What is the average number of hours per week you would spend on a computer, **at home**, for work purposes?

20

0-5	6-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9

14. What is the average number of hours per week you would spend on a computer, **at home**, for personal purposes?

21

0-5	6-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9

### COMPUTER SUPPORT

Now I would like to ask you about any computer support you receive at work.

15. Do you have access to technical support at work to fix any hardware problems? By hardware, I mean problems with the monitor, disk drives, CD ROM etc.

Yes ☐ 1

22

No ☐ 2

IF **NO** PLEASE GO TO QUESTION 18, OTHERWISE CONTINUE

16. At what level is this support provided?

PLEASE TICK ALL THAT APPLY

Departmental technician ☐ 1

23-26

College or Faculty technician ☐ 2

University Services technician ☐ 3

Outside supplier/contractor ☐ 4

17. How would you rate the support you have available?

Very poor	<input type="checkbox"/> 1
Poor	<input type="checkbox"/> 2
Fair	<input type="checkbox"/> 3
Good	<input type="checkbox"/> 4
Very good	<input type="checkbox"/> 5
No opinion	<input type="checkbox"/> 6

27

18. Do you have access to assistance if you are having problems with software or applications?(e.g., installing, running, modifying, using or uninstalling programmes)

Yes	<input type="checkbox"/> 1
No	<input type="checkbox"/> 2

28

IF **NO** PLEASE GO TO QUESTION **21**, OTHERWISE CONTINUE

19. At what level is this support provided?

PLEASE CHECK ALL THAT APPLY

Departmental technician	<input type="checkbox"/> 1
College or Faculty technician	<input type="checkbox"/> 2
University Services technician	<input type="checkbox"/> 3
Outside supplier/contractor i.e. Software vendor helpline	<input type="checkbox"/> 4

29-34

20. How would you rate the support you have available?

Very poor	<input type="checkbox"/>
Poor	<input type="checkbox"/>
Fair	<input type="checkbox"/>
Good	<input type="checkbox"/>
Very good	<input type="checkbox"/>
No opinion	<input type="checkbox"/>

35

21. Do you have access to computer training, by this I mean formal assistance in learning to use new computer programmes or applications

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

IF **NO** PLEASE GO TO QUESTION 24, OTHERWISE CONTINUE

36

22. At what level is this support provided? \_\_\_\_\_

PLEASE CHECK ALL THAT APPLY

Departmental computer consultant/trainer	<input type="checkbox"/>
College or Faculty consultant/trainer	<input type="checkbox"/>
University computer consultant/trainer	<input type="checkbox"/>
Outside training organization	<input type="checkbox"/>

37



23. How would you rate the training you have available?

Very poor	<input type="checkbox"/> 1
Poor	<input type="checkbox"/> 2
Fair	<input type="checkbox"/> 3
Good	<input type="checkbox"/> 4
Very good	<input type="checkbox"/> 5
No opinion	<input type="checkbox"/> 6

### USE OF INFORMATION TECHNOLOGY IN TEACHING

Now I would like to ask you about the use of information technology in teaching.

24. Have you used any of the following media for teaching purposes?

PLEASE TICK ALL THAT APPLY

CD ROM	<input type="checkbox"/> 1
DVD (Digital Video Disk	<input type="checkbox"/> 2
Email	<input type="checkbox"/> 3
Video-conferencing	<input type="checkbox"/> 4
Other	<input type="checkbox"/> 5
None of the above	<input type="checkbox"/> 6

IF OTHER PLEASE SPECIFY \_\_\_\_\_

25. Have you developed or taught a course of the study that involves some elements of web or internet based teaching

Yes	<input type="checkbox"/> 1
No	<input type="checkbox"/> 2

IF NO PLEASE GO TO QUESTION 31 OTHERWISE CONTINUE

26. Please indicate whether your course contains any of the following web based teaching elements

Student lead collaborative e-mail or chat discussion forum	<input type="checkbox"/>	1
Distribution of Administration material to students	<input type="checkbox"/>	2
Distribution of lecture material to students	<input type="checkbox"/>	3
Calendar of important dates for the course	<input type="checkbox"/>	4
Student Web pages	<input type="checkbox"/>	5
External Site links	<input type="checkbox"/>	6
On-line examination or tests that are a part of the overall assessment for the course	<input type="checkbox"/>	7
Glossary of terms relating to the course subject	<input type="checkbox"/>	8
Frequently asked questions regarding the course material	<input type="checkbox"/>	9
Online test or examination that are used by students to determine their progress, but aren't part of the overall assessment for the course.	<input type="checkbox"/>	10
Other	<input type="checkbox"/>	11

IF OTHER PLEASE SPECIFY \_\_\_\_\_

51-62

27. Which software have you used to develop your Web-based course?

PLEASE INDICATE WHICH SOFTWARE YOU HAVE USED BY TICKING THE APPROPRIATE BOXES IN COLUMN A.

Now please rate the software you have used to develop web based teachings sites in terms of 'ease of use' using the following scale

1 = Very poor                      4 = Good  
 2 = Poor                            5 = Very Good  
 3 = Fair                            6 = No opinion

PLEASE USE THE ABOVE SCALE TO RATE THE SOFTWARE YOU HAVE USED AND WRITE THE APPROPRIATE NUMBER IN COLUMN B.

	A		B
	Used	Not Used	
Macromedia Dreamweaver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Web CT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Frontpage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Netscape Composer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Macromedia Director	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft NetMeeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lotus Notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Note pad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## INTERNET PUBLISHING

Now I would like to ask you some questions regarding Internet publications

31. When was the last time that you visited a on-line business or commerce related journal

Today	<input type="checkbox"/> 1
1 to 3 days ago	<input type="checkbox"/> 2
3-7 weeks ago	<input type="checkbox"/> 3
More than 1 week ago	<input type="checkbox"/> 4
More than 2 weeks ago	<input type="checkbox"/> 6
More than 3 weeks ago	<input type="checkbox"/> 7
Never	<input type="checkbox"/> 8

IF **NEVER** PLEASE GO TO QUESTION 37, OTHERWISE CONTINUE

32. What are the names of the on-line journals you have visited?

	Name of Journal
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

33. How important are the following features of on-line journals

PLEASE RATE EACH FEATURE USING THE FOLLOWING 6 POINT SCALE

- 1 = ESSENTIAL
- 2 = VERY IMPORTANT
- 3 = FAIRLY IMPORTANT
- 4 = NOT VERY IMPORTANT
- 5 = NOT IMPORTANT AT ALL
- 6 = CANT CHOOSE

All articles published online should include full text and graphics	<div>1</div>	66
Articles published online should provide the data as an attachment	<div>2</div>	67
Online articles should be in both html and Adobe Acrobat pdf format	<div>3</div>	68
Online journals should also publish a printed version	<div>4</div>	69
There should be counters, to indicate the number of people who have viewed an article in an online journal	<div>5</div>	70
An online journal should provide a discussion forum	<div>6</div>	71
These should be a facility for appending readers' comments to an article published on-line	<div>7</div>	72
It should be possible to search an online journal electronically using keywords	<div>8</div>	73
Access to an online journal should be free	<div>9</div>	74
There should be no charge for downloading articles published in an online journal	<div>10</div>	75
Online articles should provide email hotlinks to the authors	<div>11</div>	76
Online journals should allow online peer reviews	<div>12</div>	77
Online journals should provide a facility for notifying registered readers of new articles	<div>14</div>	79
Online journals should publish articles as they come to hand	<div>15</div>	80
An on-line Journal should accept papers in electronic format (e.g. e-mail attachments)	<div>17</div>	2

34. Are there any other features that you think an on-line journal should have?

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---



35. We would like to know what the chances are of you submitting a paper to a journal in the near future

- a) Using the scale below and taking everything into account, what are the chances that you would submit a paper to a traditional academic journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE \_\_\_\_\_

3

- b) Using the scale below and taking everything into account, what are the chances that you would submit a paper to a traditional journal in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE \_\_\_\_\_

4

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

We would like to know what the chances are of you submitting a paper to an online journal in the near future

- c) Using the scale below and taking everything into account, what are the chances that you would submit a paper to an online journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

—  
—

5

- d) Using the scale below and taking everything into account, what are the chances that you would submit a paper to an online journal in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

—  
—

6

If you are certain, or practically certain that you would submit a paper to a on-line journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

WORLD WIDE WEB AS AN INFORMATION SOURCE

We would like to ask you some questions about using the World Wide Web as a source for information.

36. Have you used the World Wide Web to locate information on commerce or business?

Yes ☐ 1

No ☐ 2

IF **NO** PLEASE GO TO QUESTION 39, OTHERWISE CONTINUE

37. Please indicate your level of agreement with the following statements:

	Strongly Agree	Agree	Disagree	Neither agree or Disagree	Disagree	Strongly Disagree	
ould recommend the use of the web as orce of business/commerce research to ents or colleagues?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	8
rmation obtained over the Web st as reliable as information ined from other sources	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	9
ness and commerce information ined off the web is timely and ific	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	10
Web will become a increasingly lar source of information for ness/Commerce academics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	11
ents should be encouraged to use Web as a source of ness/Commerce information	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	12

38. What is your opinion of the World Wide Web as a vehicle for obtaining information?

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

ACADEMIC RESEARCH

39. The following questions are about academic research. Please read each statement carefully.

FOR EACH OF THE STATEMENTS, PLEASE TICK THE NUMBER THAT MOST CLOSELY MATCHES YOUR VIEW OF THE OPINION STATED.

a) In general, do you talk to your colleagues about academic research?

Very often	5	4	3	2	1	Never
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

b) When you talk to your colleagues about academic research do you:

Give a great deal of information	5	4	3	2	1	Give very little information
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

c) During the past six months, how many colleagues have you told about new research topics?

Told a number of colleagues	5	4	3	2	1	Told no one
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

d) Compared with your circle of colleagues, how likely are you to be asked about new research topics?

Very likely to be asked	5	4	3	2	1	Not at all likely to be asked
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

e) In a discussion of new research topics which of the following happens most?

You tell your colleagues about new research topics	5	4	3	2	1	Your colleagues tell you about new research topics
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

f) Overall in all of your discussions with colleagues are you:

Often used as a source of advice	5	4	3	2	1	Often used as a source of advice
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

g) In a discussion of new research topics would you spend more time:

Listen to your colleagues 's ideas	5	4	3	2	1	Convince your colleagues of your ideas
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## NOW, A FEW QUESTIONS ABOUT YOURSELF

This information will be treated in strictest confidence, and only be used for classification purposes.

40. Please write your job title?

26

41. Please indicate which university and university department you work for

Department

University

Region/State

Country

27

28

29

30

42. Please indicate the total length of time you have spent in University employment?

0-5 year

6-10 years

11-20  
years

21-30  
years

31+ years

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

31

How long have you been in your present employment position

Less  
than 1  
year

1-2  
years

3-4  
years

5-6  
years

7-8  
years

9+  
Years

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

32

43. What is you highest qualification?

Degree (3-4 years of University Study)	<input type="checkbox"/> 1
Master Degree	<input type="checkbox"/> 2
PhD	<input type="checkbox"/> 3
Other	<input type="checkbox"/> 4

33

44. How many postgraduate research projects (honours, Masters, PhD, diploma etc,) are you currently supervising?

projects

34

45. What is your country of origin?

\_\_\_\_\_

35

46. What is your gender?

Male ☐ 1      Female ☐ 2      Refuse ☐ 3

36

Finally, we would appreciate some feedback on this survey

47. Approximately how long did it take you to complete this survey?

Less than 5 mins	Between 5 and 10 mins	Between 10 and 15 mins	Between 15 and 20 mins	More than 20 mins
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

37

48. What date did you received this survey

\_\_\_\_\_





CONFIDENTIAL

## SURVEY ON ACADEMIC USE OF INFORMATION TECHNOLOGY

---

Please answer the following questions by ticking on the appropriate answer option, or by writing in the space provided.

---

**COMPUTER USE AT WORK**

1. Which of the following apply to your work situation?

PLEASE TICK **ONE** BOX ONLY

I have a computer in my office for my sole use

☐ 1

There is a computer in my office I share with others

☐ 2

There is a computer in my building I can use

☐ 3

I don't have access to a computer at work

☐ 4

2. Now I would like to ask you some questions about the computer you have access to at work.

PLEASE TICK **ONE** BOX ONLY FOR EACH QUESTION

- a) What is the main type of computer you have access to at work?

Laptop

☐ 1

Desktop

☐ 2

b) What operating system are you running?

Windows 3.1

☐ 1

Windows 95

☐ 2

Windows 98

☐ 3

Windows NT

☐ 4

Windows C.E.

☐ 5

Mac OS 7.X

☐ 6

Mac OS 8.X

☐ 7

Linux

☐ 8

Other

☐ 9

IF OTHER PLEASE SPECIFY \_\_\_\_\_

c) What is the main Internet browser that you use?

Internet Explorer 3 or earlier

☐ 1

Internet Explorer 4.X

☐ 2

Internet Explorer 5.X

☐ 3

Netscape Navigator 3 or earlier

☐ 4

Netscape Communicator 4.0

☐ 5

Netscape Communicator 4.5

☐ 6

Other

☐ 7

IF OTHER PLEASE SPECIFY \_\_\_\_\_

d) Does your computer have a CD-ROM?

Yes

☐ 1

No

☐ 2

e) Does your computer have a DVD (Digital Video Disk) Drive?

Yes

☐ 1

No

☐ 2

f) Does your computer have a sound card?

Yes

☐ 1

5

No

☐ 2

g) Do you have a microphone that can be plugged in to your computer?

Yes

☐ 1

6

No

☐ 2

3. Is your work computer connected to the Internet?

Yes

☐ 1

7

No

☐ 2

IF **NO** PLEASE GO TO QUESTION 5 OTHERWISE CONTINUE

4. Do you connect to the Internet via the University computer network or an independent Internet Service Provider (ISP)?

University Computer Network

☐ 1

8

Independent Internet Service Provider

☐ 2

Other

☐ 3

IF OTHER PLEASE SPECIFY \_\_\_\_\_

5. What is the average number of hours per week you would spend on a computer, **at work**, for work purposes?

0-5

☐ 1

6-9

☐ 2

10-14

☐ 3

15-19

☐ 4

20-24

☐ 5

25-29

☐ 6

30-34

☐ 7

35-39

☐ 8

40+

☐ 9

9

6. What is the average number of hours per week you would spend on a computer, **at work**, for personal purposes?

0-5  
☐ 16-9  
☐ 210-14  
☐ 315-19  
☐ 420-24  
☐ 525-29  
☐ 630-34  
☐ 735-39  
☐ 840+  
☐ 9

10

### COMPUTER USE AT HOME

Now I would like to ask you about computer usage at home.

7. Do you have a computer at home?

Yes

☐ 1

No

☐ 2

IF **NO** PLEASE GO TO QUESTION **15** OTHERWISE CONTINUE

11

8. Is your home computer privately owned, or university property?

Privately owned

☐ 1

University property

☐ 2

Other

☐ 3

IF OTHER PLEASE SPECIFY \_\_\_\_\_

12

9. What is the main type of computer you have access to at home?

Laptop

☐ 1

Desktop

☐ 2

13

a) What operating system are you running?

Windows 3.1

☐ 1

14

Windows 95

☐ 2

Windows 98

☐ 3

Windows NT

☐ 4

Mac OS 7.X

☐ 5

Mac OS 8.X

☐ 6

Linux

☐ 7

Other

☐ 8

IF OTHER PLEASE SPECIFY \_\_\_\_\_

b) Does your computer have a CD-ROM?

Yes

☐ 1

12

No

☐ 2

c) What is the main Internet browser that you use?

Internet Explorer 3 or earlier

☐ 1

Internet Explorer 4.X

☐ 2

Internet Explorer 5.X

☐ 3

13

Netscape Navigator 3 or earlier

☐ 4

Netscape Communicator 4.0

☐ 5

Netscape Communicator 4.5

☐ 6

Other

☐ 7

IF OTHER PLEASE SPECIFY \_\_\_\_\_

d) Does your computer have a DVD (Digital Video Disk)?

Yes

☐ 1

No

☐ 2

14

e) Does your computer have a sound card?

Yes

☐ 1

No

☐ 2

15

f) Do you have a microphone that can be plugged in to your computer?

Yes

☐ 1

No

☐ 2

16

10. Is your home computer connected to the Internet?

Yes

☐ 1

No

☐ 2

17

IF **NO** PLEASE GO TO QUESTION 14 OTHERWISE CONTINUE

11. Is your Internet connection paid for privately, or by your department?

Privately

☐ 1

By the University

☐ 2

Other

☐ 3

18

IF OTHER PLEASE SPECIFY \_\_\_\_\_

12. Do you connect to the Internet via the University computer network or an independent Internet Service Provider (ISP)?

University Computer Network

☐ 1

Independent Internet Service Provider

☐ 2

19

13. What is the average number of hours per week you would spend on a computer, **at home**, for work purposes?

20

0-5	6-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9

14. What is the average number of hours per week you would spend on a computer, **at home**, for personal purposes?

21

0-5	6-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9

COMPUTER SUPPORT

Now I would like to ask you about any computer support you receive at work.

15. Do you have access to technical support at work to fix any hardware problems? By hardware, I mean problems with the monitor, disk drives, CD ROM etc.

Yes	<input type="checkbox"/> 1
No	<input type="checkbox"/> 2

22

IF **NO** PLEASE GO TO QUESTION 18, OTHERWISE CONTINUE

16. At what level is this support provided?

PLEASE TICK ALL THAT APPLY

Departmental technician	<input type="checkbox"/> 1
College or Faculty technician	<input type="checkbox"/> 2
University Services technician	<input type="checkbox"/> 3
Outside supplier/contractor	<input type="checkbox"/> 4

23-26



17. How would you rate the support you have available?

Very poor	<input type="checkbox"/> 1
Poor	<input type="checkbox"/> 2
Fair	<input type="checkbox"/> 3
Good	<input type="checkbox"/> 4
Very good	<input type="checkbox"/> 5
No opinion	<input type="checkbox"/> 6

27

18. Do you have access to assistance if you are having problems with software or applications?(e.g., installing, running , modifying, using or uninstalling programmes)

Yes	<input type="checkbox"/> 1
No	<input type="checkbox"/> 2

28

IF **NO** PLEASE GO TO QUESTION **21**, OTHERWISE CONTINUE

19. At what level is this support provided?

PLEASE CHECK ALL THAT APPLY

Departmental technician	<input type="checkbox"/> 1
College or Faculty technician	<input type="checkbox"/> 2
University Services technician	<input type="checkbox"/> 3
Outside supplier/contractor i.e. Software vendor helpline	<input type="checkbox"/> 4

29-34

20. How would you rate the support you have available?

Very poor	<input type="checkbox"/>	1
Poor	<input type="checkbox"/>	2
Fair	<input type="checkbox"/>	3
Good	<input type="checkbox"/>	4
Very good	<input type="checkbox"/>	5
No opinion	<input type="checkbox"/>	6

35

21. Do you have access to computer training, by this I mean formal assistance in learning to use new computer programmes or applications

Yes	<input type="checkbox"/>	1
No	<input type="checkbox"/>	2

IF NO PLEASE GO TO QUESTION 24, OTHERWISE CONTINUE

36

22. At what level is this support provided?

PLEASE CHECK ALL THAT APPLY

Departmental computer consultant/trainer	<input type="checkbox"/>	1
College or Faculty consultant/trainer	<input type="checkbox"/>	2
University computer consultant/trainer	<input type="checkbox"/>	3
Outside training organization	<input type="checkbox"/>	4
	<input type="checkbox"/>	5

37-4

23. How would you rate the training you have available?

Very poor	<input type="checkbox"/> 1
Poor	<input type="checkbox"/> 2
Fair	<input type="checkbox"/> 3
Good	<input type="checkbox"/> 4
Very good	<input type="checkbox"/> 5
No opinion	<input type="checkbox"/> 6

### USE OF INFORMATION TECHNOLOGY IN TEACHING

Now I would like to ask you about the use of information technology in teaching.

24. Have you used any of the following media for teaching purposes?

PLEASE TICK ALL THAT APPLY

CD ROM	<input type="checkbox"/> 1
DVD (Digital Video Disk	<input type="checkbox"/> 2
Email	<input type="checkbox"/> 3
Video-conferencing	<input type="checkbox"/> 4
Other	<input type="checkbox"/> 5
None of the above	<input type="checkbox"/> 6

IF OTHER PLEASE SPECIFY \_\_\_\_\_

25. Have you developed or taught a course of the study that involves some elements of web or internet based teaching

Yes	<input type="checkbox"/> 1
No	<input type="checkbox"/> 2

IF **NO** PLEASE GO TO QUESTION 31 OTHERWISE CONTINUE

26. Please indicate whether your course contains any of the following web based teaching elements

- Student lead collaborative e-mail or chat discussion forum ☐ 1
- Distribution of Administration material to students ☐ 2
- Distribution of lecture material to students ☐ 3
- Calendar of important dates for the course ☐ 4
- Student Web pages ☐ 5
- External Site links ☐ 6
- On-line examination or tests that are a part of the overall assessment for the course ☐ 7
- Glossary of terms relating to the course subject ☐ 8
- Frequently asked questions regarding the course material ☐ 9
- Online test or examination that are used by students to determine their progress, but aren't part of the overall assessment for the course. ☐ 10
- Other ☐ 11

IF OTHER PLEASE SPECIFY \_\_\_\_\_

51-62

27. Which software have you used to develop your Web-based course?

PLEASE INDICATE WHICH SOFTWARE YOU HAVE USED BY TICKING THE APPROPRIATE BOXES IN COLUMN A.

Now please rate the software you have used to develop web based teachings sites in terms of 'ease of use' using the following scale

- 1 = Very poor
- 2 = Poor
- 3 = Fair
- 4= Good
- 5= Very Good
- 6 = No opinion

PLEASE USE THE ABOVE SCALE TO RATE THE SOFTWARE YOU HAVE USED AND WRITE THE APPROPRIATE NUMBER IN COLUMN B.

	A		B
	Used	Not Used	
Macromedia Dreamweaver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Web CT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft Frontpage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Netscape Composer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Macromedia Director	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Microsoft NetMeeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lotus Notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Note pad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

28. What would you say are the main issues you have encountered when trying to adopt this new computer technology to teaching?

29. Did you receive any technical assistance to develop your Web-based teaching resources?

Yes ☐ 1

No ☐ 2

IF **NO** PLEASE GO TO QUESTION 33 OTHERWISE CONTINUE

30. Could you please rate the assistance you received?

Very poor ☐ 1

Poor ☐ 2

Fair ☐ 3

Good ☐ 4

Very good ☐ 5

No opinion ☐ 6

63

64

INTERNET PUBLISHING

Now I would like to ask you some questions regarding Internet publications

31. When was the last time that you visited a on-line business or commerce related journal

- Today

1
- 1 to 3 days ago

2
- 3-7 weeks ago

3
- More than 1 week ago

4
- More than 2 weeks ago

6
- More than 3 weeks ago

7
- Never

8

IF **NEVER** PLEASE GO TO QUESTION 37, OTHERWISE CONTINUE

32. What are the names of the on-line journals you have visited?

	Name of Journal
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

33. How important are the following features of on-line journals

PLEASE RATE EACH FEATURE USING THE FOLLOWING 6 POINT SCALE

- 1 = ESSENTIAL
- 2 = VERY IMPORTANT
- 3 = FAIRLY IMPORTANT
- 4 = NOT VERY IMPORTANT
- 5 = NOT IMPORTANT AT ALL
- 6 = CANT CHOOSE

All articles published online should include full text and graphics	<div>1</div>	66
Articles published online should provide the data as an attachment	<div>2</div>	67
Online articles should be in both html and Adobe Acrobat pdf format	<div>3</div>	68
Online journals should also publish a printed version	<div>4</div>	69
There should be counters, to indicate the number of people who have viewed an article in an online journal	<div>5</div>	70
An online journal should provide a discussion forum	<div>6</div>	71
These should be a facility for appending readers' comments to an article published on-line	<div>7</div>	72
It should be possible to search an online journal electronically using keywords	<div>8</div>	73
Access to an online journal should be free	<div>9</div>	74
There should be no charge for downloading articles published in an online journal	<div>10</div>	75
Online articles should provide email hotlinks to the authors	<div>11</div>	76
Online journals should allow online peer reviews	<div>12</div>	77
Online journals should provide a facility for notifying registered readers of new articles	<div>14</div>	79
Online journals should publish articles as they come to hand	<div>15</div>	80
An on-line Journal should accept papers in electronic format (e.g. e-mail attachments)	<div>17</div>	2



34. Are there any other features that you think an on-line journal should have?

---

---

---

35. We would like to know what the chances are of you submitting a paper to a journal in the near future

- a) Using the scale below and taking everything into account, what are the chances that you would submit a paper to a traditional academic journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

3

- b) Using the scale below and taking everything into account, what are the chances that you would submit a paper to a traditional journal in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

4

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

We would like to know what the chances are of you submitting a paper to an online journal in the near future

- c) Using the scale below and taking everything into account, what are the chances that you would submit a paper to an online journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE \_\_\_\_\_  
\_\_\_\_\_

5

- d) Using the scale below and taking everything into account, what are the chances that you would submit a paper to an online journal in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE \_\_\_\_\_  
\_\_\_\_\_

6

If you are certain, or practically certain that you would submit a paper to a on-line journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

WORLD WIDE WEB AS INFORMATION SOURCE

We would like to ask you some questions about using the World Wide Web as a source for information.

36. Have you used the World Wide Web to locate information on commerce or business?

Yes ☐ 1

No ☐ 2

IF NO PLEASE GO TO QUESTION 39, OTHERWISE CONTINUE.

37. Please indicate your level of agreement with the following statements:

	Strongly Agree	Agree	Disagree	Neither agree or Disagree	Disagree	Strongly Disagree
would recommend the use of the web as source on business/commerce research students or colleagues?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Information obtained over the Web just as reliable as information obtained from other sources	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Business and commerce information obtained off the web is timely and specific	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
The Web will become an increasingly popular source of information for Business/Commerce academics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Students should be encouraged to use the Web as a source of Business/Commerce information	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

38. What is your opinion of the World Wide Web as a vehicle for obtaining information?

---

---

---

ACADEMIC RESEARCH

Now we would like to ask you some questions about academic research

39. The following questions are about academic research. Please read each statement carefully.

FOR EACH OF THE STATEMENTS, PLEASE ENTER THE NUMBER THAT MOST CLOSELY MATCHES YOUR VIEW OF THE OPINION STATED. THE ITEMS ARE SCALED FROM 1 TO 7, WITH A HIGHER NUMBER MEANING STRONGER AGREEMENT.

- Other people rarely ask for my comments when they are deciding about possible research topics.
- My opinion on new research topics seems not to count with other people.
- My opinion influences the types of research other people undertake.
- Other people think that I am a poor source of information when it comes to deciding a research topic.
- When they choose a research topic people do not turn to me for advice.
- People that I know pick research topics based on what I have told them.
- People rarely repeat things I have told them about research topics to other people.
- What I say about research topics rarely changes other peoples' minds.
- I often persuade other people to undertake research topics that I like.
- Other people rarely come to me for advice about choosing their research topic.
- I often influence people's opinion about research topics.

NOW, A FEW QUESTIONS ABOUT YOURSELF.

This information will be treated in strictest confidence, and only be used for classification purposes.

40. Please write your job title?

41. Please indicate which university and university department you work for

Department

University

Region/State

Country

42. Please indicate the total length of time you have spent in University employment?

0-5 year

6-10 years

11-20 years

21-30 years

31+ years

How long have you been in your present employment position

Less than 1 year

1-2 years

3-4 years

5-6 years

7-8 years

9+ Years

43. What is you highest qualification?

Degree (3-4 years of University Study)

Master Degree

PhD	<div>3</div>
Other	<div>4</div>

44. How many postgraduate research projects (honours, Masters, PhD, diploma etc,) are you currently supervising?

 projects

45. What is your country of origin?

46. What is your gender?

Male	<div>1</div>	Female	<div>2</div>	Refuse	<div>3</div>
------	--------------	--------	--------------	--------	--------------

Finally, we would appreciate some feedback on this survey

47. Approximately how long did it take you to complete this survey?

Less than 5 mins	Between 5 and 10 mins	Between 10 and 15 mins	Between 15 and 20 mins	More than 20 mins
<div>1</div>	<div>2</div>	<div>3</div>	<div>4</div>	<div>5</div>

48. What date did you receive this survey



49. Have you any other comments about this survey you wish to make?

---

---

---

50. Finally, would you be willing for us to contact you at some later date with a short follow-up survey?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

43  
44

---

Thank you for your assistance. We will notify you when the results are available on the Web.

---

### Appendix 3 E-mail questionnaire

To complete this survey, please type in your answers after each colon (: ) as appropriate. Do not edit or rearrange the items listed within a question, so that we can correctly determine your answers.

Computer use at work

Q. 1

Which of the following apply to your work situation?

[Please type an X after the appropriate choice (select all that apply).]

I have a computer in my office for my sole use:

There is a computer in my office I share with others:

There is a computer in my building I can use:

I don't have access to a computer at work:

Q. 2

What is the main type of computer do you have access to at work?

[Please type an X after the appropriate choice (select only one item).]

Laptop:

Desktop:

Q. 3

What operating system are you running?

[Please type an X after the appropriate choice (select only one item).]

Windows 3.X:

Windows 95:

Windows 98:

Windows NT:

Windows C.E.:

Mac SO 7.X:

Mac SO 8.X:

Linux:

Other Please specify:

Q. 4

What is the main Internet browser that you use?

[Please type an X after the appropriate choice (select only one item).]

Internet Explorer 3 or earlier:

Internet Explorer 4.X:

Internet Explorer 5.X:

Netscape Navigator 3 or earlier:

Netscape Communicator 4.0:

Netscape Communicator 4.5:

Other Please specify:

Q. 5

Does your computer at work have any of the following equipment?

[Please type an X after the appropriate choice.]

CD-ROM?

DVD (Digital Video Disk) Drive?

Sound card?

Microphone

Q. 9

Is your work computer connected to the Internet?

[Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 11]:

Go to question 11 on No

Q. 10

Do you connect to the Internet via the University computer network or via an independent Internet Service Provider (ISP)?

[Please type an X after the appropriate choice (select only one item).]

University Computer Network:

Independent Internet Service Provider:

Q. 11

What is the average number of hours per week you would spend on a computer, at work, for work purposes?

[Please type an X after the appropriate choice (select only one item).]

0-5: 6-9: 10-14: 15-19: 20-24: 25-29: 30-34: 35-39: 40+:

Q. 12

What is the average number of hours per week you would spend on a computer, at work, for personal purposes?

[Please type an X after the appropriate choice (select only one item).]

0-5: 6-9: 10-14: 15-19: 20-24: 25-29: 30-34: 35-39: 40+:

Computer use at home

Q. 13

Do you have a computer at home?

[Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 28]:

Go to question 28 on No

Q. 14

Is your home computer privately owned, or university property?

[Please type an X after the appropriate choice (select only one item).]

Privately owned:

University property:

Other (If other please specify):

Q. 15

What is the main type of computer do you have access to at home?

[Please type an X after the appropriate choice (select only one item).]

Laptop:

Desktop:

Q. 16

What operating system are you running?

[Please type an X after the appropriate choice (select only one item).]

Windows 3.X:

Windows 95:

Windows 98:

Windows NT:

Mac SO 7.X:

Mac SO 8.X:

Linux:

Other Please specify:

Q. 17

What is the main Internet browser that you use?

[Please type an X after the appropriate choice (select only one item).]

Internet Explorer 3 or earlier:

Internet Explorer 4.X:

Internet Explorer 5.X:

Netscape Navigator 3 or earlier:

Netscape Communicator 4.0:

Netscape Communicator 4.5:

Other:

Q. 18

Does your computer at Home have any of the following equipment?

[Please type an X after the appropriate choice.]

CD-ROM

DVD (Digital Video Disk) Drive

Sound card?

Microphone

Q. 22

Is your home computer connected to the Internet?

[Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 26]:

Go to question 26 on No

Q. 23

Do you connect to the Internet via the University computer network or via an independent Internet Service Provider (ISP)?

[Please type an X after the appropriate choice (select only one item).]

University Computer Network:

Independent Internet Service Provider:

Q. 24

Is your Internet connection paid for privately, or by your department?

[Please type an X after the appropriate choice (select only one item).]

Privately:

By the University:

Other (Please specify):

Q. 25

What is the main Internet browser that you use?

[Please type an X after the appropriate choice (select only one item).]

Internet Explorer 3 or earlier:

Internet Explorer 4.X:

Internet Explorer 5.X:

Netscape Navigator 3 or earlier:

Netscape Communicator 4.0:

Netscape Communicator 4.5:

Other(Please specify):

Q. 26

What is the average number of hours per week you would spend on a computer at home, for work purposes?

[Please type an X after the appropriate choice (select only one item).]

0-5: 6-9: 10-14: 15-19: 20-24: 25-29: 30-34: 35-39: 40+:

Q. 27

What is the average number of hours per week you would spend on a computer at home, for personal purposes?

[Please type an X after the appropriate choice (select only one item).]

0-5: 6-9: 10-14: 15-19: 20-24: 25-29: 30-34: 35-39: 40+:

Computer Support

Now I would like to ask you about any computer support you receive at work

Q. 28

Do you have access to technical support at work to fix any hardware problems? By hardware, I mean problems with the monitor, disk drives, CD ROM.

[Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 31]:

Go to question 31 on No

Q. 29

At what level is this support provided?

[Please type an X after each choice that is appropriate.]

Departmental technician:

College or Faculty technician:

University Services technician:

Outside supplier/contractor:

Q. 30

How would you rate the support you have available?

[For each item, please type an X after the appropriate choice (select only one per item).]

Very poor:

Poor:

Fair:

Good:

Very good:

No opinion:

Q. 31

Do you have access to assistance if you are having problems with software or applications?(e.g., installing, running, modifying, using or uninstalling programmes)

[Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 34]:

Go to question 34 on No

Q. 32

At what level is this support provided?

[Please type an X after each choice that is appropriate.]

Departmental technician:

College or Faculty technician:

University Services technician:

Outside supplier/contractor i.e. Software vendor helpline:

Other please specify:

Q. 33

How would you rate the support you have available?

[For each item, please type an X after the appropriate choice (select only one per item).]

Very poor:

Poor:

Fair:

Good:

Very good:

No opinion:

Q. 34

Do you have access to computer training? By this I mean formal assistance in learning to use new computer programmes or applications. [Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 38]:

Go to question 38 on No

Q. 36

At what level is this support provided?

[Please type an X after each choice that is appropriate.]

Departmental computer consultant/trainer:

College or Faculty consultant/trainer:

University computer consultant/trainer:

Outside training organisation:

Other please specify:

Q. 37

How would you rate the training you have available?

[Please type an X after the appropriate choice (select only one item).]

Very poor:

Poor:

Fair:

Good:  
Very good:  
No opinion:

Use of Information Technology in teaching  
Now I would like to ask you about use of information technology in teaching.

Q. 38

Have you used any of the following media for teaching purposes?

[Please type an X after each choice that is appropriate.]

CD ROM:  
DVD (Digital Video Disk:  
Email:  
Video-conferencing:  
Other (please specify)  
None of the above:

Q. 39

Have you developed or taught a course of the study that involves some elements of web or internet based teaching

[Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 45]:

Go to question 45 on No

Q. 40

Please indicate whether your course contain any of the following web based teaching elements

[Please type an X after each choice that is appropriate.]

Student lead collaborative e-mail or chat discussion forum:

Distribution of Administration material to students:

Distribution of lecture material to students:

Calendar of important dates for the course:

Student Web pages:

External Site links:

On-line tests that are a part of the overall assessment:

Glossary of terms relating to the course subject:

Frequently asked questions regarding the course material:

Online test or examination that are used by students to

Determine their progress, but aren't part of the overall assessment for the course :

Other please specify:



Q. 41

Which software have you used to develop your Web-based course?

[Please place a X next to the software you have used]

Now please rate the software you have used to develop web based teachings sites in terms of 'ease of use' using the following scale.

1 = Very poor 2 = Poor 3 = Fair 4 = Good 5 = Very Good 6 = No opinion

[Please use the scale above to rate the software you have used and write the appropriate number beside the software]

Macromedia Dreamweaver:

Web CT:

Microsoft Frontpage:

Netscape Composer:

Macromedia Director:

Microsoft NetMeeting:

Lotus Notes:

Note pad:

Other (please specify):

Other (please specify):

Other (please specify):

Q. 42

What would you say are the main issues you have encountered when trying to adopt this new computer technology to teaching?

Answer:

Q. 43

Did you receive any technical assistance to develop your Web-based teaching resources?

[Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 45]:

Go to question 45 on 2

Q. 44

Could you please rate the assistance you received?

[Please type an X after the appropriate choice (select only one item).]

Very poor:

Poor:

Fair:

Good:

Very good:

No opinion:

# INTERNET PUBLISHING

Now I would like to ask you some questions regarding Internet publications

Q. 45

When was the last time that you visited an on-line business or commerce related journal?

[Please type an X after the appropriate choice (select only one item).]

Today:

1 to 3 days ago:

3-7 days ago:

More than 1 week ago and less than 2 weeks ago:

More than 2 weeks ago and less than 3 weeks ago:

More than 3 weeks ago:

Never [Go to question 49]:

Go to question 49 on Never

Q. 46

What are the names of the on-line journals you have visited?

1:

2:

3:

4:

5:

6:

7:

8:

9:

10:

Q. 47

How are important are the following features of on-line journals

Please assign a rating on a scale from 1 to 5, where 1 represents

"Essential", 5 represents "Not important at all" and 6 can't choose.

[For each item, please type an X after the appropriate choice (select only one per item).]

All articles published online should include full text and graphics:

1: 2: 3: 4: 5: 6:

Articles published online should provide the data as an attachment:

1: 2: 3: 4: 5: 6:

Online articles should be in both web(html) and Adobe Acrobat (pdf) format.

1: 2: 3: 4: 5: 6:

Online journals should also publish a printed version:

1: 2: 3: 4: 5: 6:

There should be counters, to indicate the number of people who have viewed an article an

online journal:  
1: 2: 3: 4: 5: 6:

An online journal should provide a discussion forum:  
1: 2: 3: 4: 5: 6:

There should be a facility for appending readers' comments to an article published on-line:  
1: 2: 3: 4: 5: 6:

It should be possible to search an online journal electronically using keywords:  
1: 2: 3: 4: 5: 6:

Access to an online journal should be free:  
1: 2: 3: 4: 5: 6:

There should be no charge for downloading articles:  
1: 2: 3: 4: 5: 6:

Online articles should provide email hotlinks to the authors:  
1: 2: 3: 4: 5: 6:

Online journals should allow online peer reviews:  
1: 2: 3: 4: 5: 6:

Online journals should provide a facility for notifying:  
1: 2: 3: 4: 5: 6:

Online journals should publish articles as they:  
1: 2: 3: 4: 5: 6:

Online Journal could accept papers in electronic format:  
1: 2: 3: 4: 5: 6:

Q. 48

Are there any other features that you think an on-line journal should have?

Answer:

Q. 49

We would like to know what the chances are of you submitting a paper to a journal in the near future

a) Taking everything into account, what are the chances that you would submit a paper to a traditional academic journal in the next six(6) months?

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an

online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be

[Please type an X after the appropriate choice (select only one item).]

- 10 Certain, Practically Certain (99 in 100):
- 9 Almost Sure (9 in 10):
- 8 Very Probable (8 in 10):
- 7 Probable (7 in 10):
- 6 Good Possibility (6 in 10):
- 5 Fairly Good Possibility (5 in 10):
- 4 Fair Possibility (4 in 10):
- 3 Some Possibility (3 in 10):
- 2 Slight Possibility (2 in 10):
- 1 Very Slight Possibility (1 in 10):
- 0 No Chance, Almost No Chance (1 in 100):

b) What about in the next twelve(12) months?

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

[Please type an X after the appropriate choice (select only one item).]

- 10 Certain, Practically Certain (99 in 100):
- 9 Almost Sure (9 in 10):
- 8 Very Probable (8 in 10):
- 7 Probable (7 in 10):
- 6 Good Possibility (6 in 10):
- 5 Fairly Good Possibility (5 in 10):
- 4 Fair Possibility (4 in 10):
- 3 Some Possibility (3 in 10):
- 2 Slight Possibility (2 in 10):
- 1 Very Slight Possibility (1 in 10):
- 0 No Chance, Almost No Chance (1 in 100):

Taking everything into account, what are the chances that you would submit a paper to an on-line journal in the next six (6) months?

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

[Please type an X after the appropriate choice (select only one item).]

- 10 Certain, Practically Certain (99 in 100):
- 9 Almost Sure (9 in 10):
- 8 Very Probable (8 in 10):
- 7 Probable (7 in 10):
- 6 Good Possibility (6 in 10):

- 5 Fairly Good Possibility (5 in 10):
- 4 Fair Possibility (4 in 10):
- 3 Some Possibility (3 in 10):
- 2 Slight Possibility (2 in 10):
- 1 Very Slight Possibility (1 in 10):
- 0 No Chance, Almost No Chance (1 in 100):

c) What about in the next twelve (12) months?

If you are certain, or practically certain that you would submit a paper to a on-line journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

[Please type an X after the appropriate choice (select only one item).]

- 10 Certain, Practically Certain (99 in 100):
- 9 Almost Sure (9 in 10):
- 8 Very Probable (8 in 10):
- 7 Probable (7 in 10):
- 6 Good Possibility (6 in 10):
- 5 Fairly Good Possibility (5 in 10):
- 4 Fair Possibility (4 in 10):
- 3 Some Possibility (3 in 10):
- 2 Slight Possibility (2 in 10):
- 1 Very Slight Possibility (1 in 10):
- 0 No Chance, Almost No Chance (1 in 100):

World Wide Web as an information source

Q. 51

Have you used the World Wide Web to locate information on commerce or business?

Please type an X after the appropriate choice (select only one item).]

Yes:

No [Go to question 54]:

Go to question 54 on No

Q. 52

Please indicate your level of agreement with the following statements...

[For each item, please type an X after the appropriate choice (select only one per item).]

I would recommend the use of the web as a source on Business/commerce research to students or colleagues? :

Strongly Agree:

Agree:

Neutral:

Disagree:

Strongly Disagree:

Information obtained off the Web is just as reliable as information obtain from other sources:

Strongly Agree:

Agree:

Neutral:

Disagree:

Strongly Disagree:

Business and commerce information obtained off the is timely and specific:

Strongly Agree:

Agree:

Neutral:

Disagree:

Strongly Disagree:

The Web will become a increasingly popular source of information for Business/Commerce academics:

Strongly Agree:

Agree:

Neutral:

Disagree:

Strongly Disagree:

Students should be encouraged to use the Web as a source of Business/Commerce information:

Strongly Agree:

Agree:

Neutral:

Disagree:

Strongly Disagree:

Q. 53

What is your opinion of the World Wide Web as a vehicle for obtaining information

Answer:

Academic Research

Now I would like to ask you some questions about academic research

Q. 54

The following questions are about academic research. Please read each statement carefully.

Please assign a rating on a scale from 1 to 7, where 1 represents "Lowest agreement" and 7 represents "Highest agreement".

[For each item, please type an X after the appropriate choice (select only one per item).]

Other people rarely ask for my comments when they are deciding about possible research topics.:

1: 2: 3: 4: 5: 6: 7:

My opinion on new research topics seems not to count with other people:  
1: 2: 3: 4: 5: 6: 7:

My opinion influences the types of research other people undertake:  
1: 2: 3: 4: 5: 6: 7:

Other people think that I am a poor source of information when it comes to deciding a research topic.:  
1: 2: 3: 4: 5: 6: 7:

When they choose a research topic people do not turn to me for advice:  
1: 2: 3: 4: 5: 6: 7:

People that I know pick research topics based on what I have told them:  
1: 2: 3: 4: 5: 6: 7:

People rarely repeat things I have told them about research topics to other people.:  
1: 2: 3: 4: 5: 6: 7:

What I say about research topics rarely changes other peoples' minds.  
1: 2: 3: 4: 5: 6: 7:

I often persuade other people to undertake research topics that I like:  
1: 2: 3: 4: 5: 6: 7:

Other people rarely come to me for advice about choosing their research topic.  
1: 2: 3: 4: 5: 6: 7:

I often influence people's opinion about research topics.:  
1: 2: 3: 4: 5: 6: 7:

Now a few questions about yourself  
This information will only be used for classification purposes  
Q. 55

Please write your job title?  
Answer:

Q. 56  
Please indicate which university and university department you work for

Department:  
University:  
Region/State:  
Country:

Q. 57  
Please indicate the total length of time you have spent in University employment?

[Please type an X after the appropriate choice (select only one item).]

0-5 year:

6-10 years:

11-20 years:

21-30 years:

31+ years:

Q. 58

How long have you been in your present employment position

[Please type an X after the appropriate choice (select only one item).]

Less than 1 year:

1-2 years:

3-4 years:

5-6 years:

7-8 years:

9+ Years:

Q. 59

What is your highest qualification?

[Please type an X after the appropriate choice (select only one item).]

Masters Degree:

PhD:

Other:

Q. 60

How many postgraduate research projects (honours, Masters, PhD, diploma etc,) are you currently supervising?

[Please type in a value from 0 to 160.]

Answer:

Q. 61

What is your gender?

[Please type an X after the appropriate choice (select only one item).]

Female:

Male:

Refused:

Q. 62

Approximately how long did it take you to complete this survey?

[Please type an X after the appropriate choice (select only one item).]

Less than 5 mins:

Between 5 and 10 mins:

Between 10 and 15 mins:

Between 15 and 20 mins:

More than 20 mins:



Q. 63

Finally, would you be willing for us to contact you at some later date with a short follow-up survey?

[Please type an X after the appropriate choice (select only one item).]

Yes:

No:

Appendix 4 Single web page questionnaire

COMPUTER USE AT WORK

1 Which of the following apply to your work situation?

PLEASE TICK ALL THAT APPLY

- ☐ I have a computer in my office for my sole use
- ☐ There is a computer in my office I share with others
- ☐ There is a computer in my building I can use

2 Now I would like to ask you some questions about the computer you have access to at work.

PLEASE SELECT THE APPROPRIATE RESPONSE FROM THE DROP DOWN BOX

a) What is the main type of computer you have access to at work?

b) What operating system are you running?

IF OTHER PLEASE SPECIFY

COMPUTER USE AT WORK (cont.)

2 c) What is the main Internet browser that you use on your work computer?

IF OTHER PLEASE SPECIFY

d) Does your computer have a CD-ROM?

☐ Yes

☐ No

e) Does your computer have a DVD (Digital Video Disk) Drive?

☐ Yes

☐ No

f) Does your computer have a sound card?

☐ Yes

☐ No

PLEASE TICK ALL THAT APPLY

- ☐ Departmental technician
- ☐ College or Faculty technician
- ☐ University Services technician
- ☐ Outside supplier/contractor

- 17 How would you rate the support you have available?

#### COMPUTER SUPPORT

- 18 Do you have access to assistance if you are having problems with software or applications?(e.g., installing, running , modifying, using or uninstalling programmes)

- ☐ Yes
- ☐ No

IF NO PLEASE GO TO QUESTION 21 OTHERWISE CONTINUE

#### COMPUTER SUPPORT (cont.)

- 19 At what level is this support provided?  
PLEASE TICK ALL THAT APPLY

- ☐ Departmental technician
- ☐ College or Faculty technician
- ☐ University Services technician
- ☐ Outside supplier/contractor ( i.e. Software vendor helpline)

- 20 How would you rate the support you have available ?

#### COMPUTER SUPPORT (cont.)

- 21 Do you have access to computer training? By this I mean formal assistance in learning to use new computer programmes or applications.

- ☐ Yes
- ☐ No

IF NO PLEASE GO TO QUESTION 24 OTHERWISE CONTINUE

#### COMPUTER SUPPORT (cont.)

- 22 At what level is this support provided?  
PLEASE CHECK ALL THAT APPLY

- ☐ Departmental computer consultant/trainer
- ☐ College or Faculty consultant/trainer
- ☐ University computer consultant/trainer
- ☐ Outside training organization

23 How would you rate the training you have available?

## USE OF INFORMATION TECHNOLOGY IN TEACHING

Now I would like to ask you about use of information technology in teaching.

24 Have you used any of the following media for teaching purposes?

PLEASE TICK ALL THAT APPLY

- ☐ CD ROM
- ☐ DVD (Digital Video Disk)
- ☐ Email
- ☐ Video-conferencing
- ☐ Other
- ☐ None of the above

IF OTHER PLEASE SPECIFY

## USE OF INFORMATION TECHNOLOGY IN TEACHING

25 Have you developed or taught a course of the study that involves some elements of web or internet based teaching

- ☐ Yes
- ☐ No

IF **NO** PLEASE GO TO QUESTION 31 OTHERWISE CONTINUE

26. Please indicate whether your course contains any of the following web based teaching elements

Student led collaborative e-mail or chat discussion forum

Distribution of Administration material to students

Calendar of important dates for the course

Student Web pages

External Site links

On-line examination of test that are a part of the overall assessment for the course

Glossary of terms relating to the course subject

Frequently asked questions regarding course material

On-line test or examination that is used by students to determine their progress, but aren't part of the overall assessment for the course

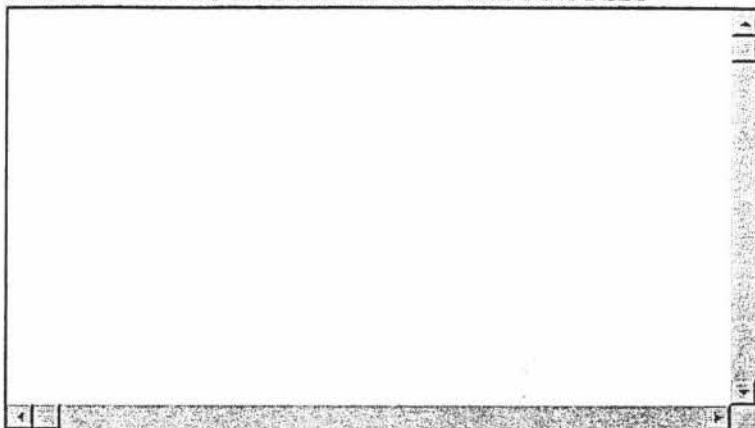
Other IF OTHER PLEASE SPECIFY

- 27 Which software have you used to develop your Web-based course?  
PLEASE INDICATE WHICH SOFTWARE YOU HAVE USED BY SELECTING THE  
APPROPRIATE RESPONSE FROM THE CORRESPONDING DROP DOWN BOX

Now please rate the software you have used to develop web based teachings site in terms of "ease  
of use" using the following scale

	Used	Rating
Macromedia Dreamweaver	<input type="text"/>	<input type="text"/>
Web CT	<input type="text"/>	<input type="text"/>
Microsoft Frontpage	<input type="text"/>	<input type="text"/>
Netscape Composer	<input type="text"/>	<input type="text"/>
Macromedia Director	<input type="text"/>	<input type="text"/>
Microsoft NetMeeting	<input type="text"/>	<input type="text"/>
Lotus Notes	<input type="text"/>	<input type="text"/>
Note Pad	<input type="text"/>	<input type="text"/>
Other (PLEASE SPECIFY) <input type="text"/>	<input type="text"/>	<input type="text"/>
Other (PLEASE SPECIFY) <input type="text"/>	<input type="text"/>	<input type="text"/>
Other (PLEASE SPECIFY) <input type="text"/>	<input type="text"/>	<input type="text"/>

- 28 What would you say are the main issues you have encountered when trying to adopt this new computer technology for teaching  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW



- 29 Did you receive any technical assistance to develop your web based teaching resources?

☐ Yes

☐ No

IF NO PLEASE GO TO QUESTION 31 OTHERWISE CONTINUE

- 30 Could you please rate the assistance you received?



#### INTERNET PUBLICATIONS

Now we would like to ask you some questions regarding Internet publications

- 31 When was the last time that you visited an on-line business or commerce related journal



IF NEVER PLEASE GO TO QUESTION 36 OTHERWISE CONTINUE

- 32 What are the names of the on-line journals you have visited?

1		2	
3		4	
5		6	
7		8	
9		10	

**INTERNET PUBLICATIONS (cont.)**

- 33 How important are the following features of on-line journals  
PLEASE RATE THE IMPORTANCE OF EACH FEATURE BY SELECTING THE APPROPRIATE  
RESPONSE FROM THE DROP DOWN BOX.

All articles published online should include full text and graphics	-
All articles published online should provide the data as an attachment	-
Online articles should be in both web(html) and Adobe Acrobat (pdf) format	-
Online journals should also publish a printed version	-
There should be counters, to indicate the number of people who have viewed an article in an online journal	-
An online journal should provide a discussion forum	-
There should be a facility for appending readers' comments to an article published on-line	-
It should be possible to search an online journal electronically using keywords	-
Access to an online journal should be free	-
There should be no charge for downloading articles published in an online journal	-
Online articles should provide email hotlinks to the authors	-
Online journals should allow online peer reviews	-
Online journals should provide a facility for notifying registered readers of new articles	-
Online journals should publish articles as they come to hand	-
Online journals should accept papers in electronic format (e.g. e-mail attachments)	-



INTERNET PUBLICATIONS(cont.)

- 34 Are there any other features that you think an on-line journal should have?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW

INTERNET PUBLICATIONS(cont.)

- 35 We would like to know what the chances are of you submitting a paper to a journal in the near future.

a) Using the scale below and taking everything into account, what are the chances that you would submit a paper to a traditional academic journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

b) What about in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

SCALE INSTRUCTIONS

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to 0 or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

INTERNET PUBLICATIONS(cont.)

We would now like to know what the chances are of you submitting a paper to an online journal in the near future.

- 35 c) Using the scale below and taking everything into account, what are the chances that you would submit a paper to an online journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

- d) What about in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

SCALE INSTRUCTIONS

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

WORLD WIDE WEB AS INFORMATION SOURCE

We would like to ask you some questions about using the World Wide Web as a source for information.

- 36 Have you used the World Wide Web to locate information on commerce or business?

☐ Yes

☐ No

IF NO PLEASE GO TO QUESTION 39 OTHERWISE CONTINUE

## WORLD WIDE WEB AS INFORMATION SOURCE (cont.)


- 37 Please indicate your level of agreement with the following statements:

PLEASE SELECT THE APPROPRIATE RESPONSE FOR EACH STATEMENT FROM THE CORRESPONDING DROP DOWN BOX

I would recommend the use of web as a source of business/commerce research to students or colleagues?

Downloaded from ascelibrary.org by University of California, San Diego on 06/06/14. Copyright ASCE, For All Rights Reserved, No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without permission in writing from ASCE.

Information obtained the over the Web is just as reliable as information obtain from other sources

<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div>	
---	---

Business and commerce information obtained off the web is timely and specific



The Web will become an increasingly popular source of information for Business/Commerce academics




Students should be encouraged to use the Web as a source of Business/Commerce information

— 10 —

## WORLD WIDE WEB AS INFORMATION SOURCE (cont.)

- 38 What is your opinion of the World Wide Web as a vehicle for obtaining information?

PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW



ACADEMIC RESEARCH

Now we would like to ask you some questions about academic research

39 The following questions are about academic research. Please read each statement carefully. FOR EACH OF THE STATEMENTS, PLEASE SELECT THE NUMBER THAT MOST CLOSELY MATCHES YOUR VIEW OF THE OPINION STATED. THE ITEMS ARE SCALED FROM 1 TO 7, WITH A HIGHER NUMBER MEANING STRONGER AGREEMENT.

Other people rarely ask for my comments when they are deciding about possible research topics.

My opinion on new research topics seems not to count with other people.

My opinion influences the types of research other people undertake.

Other people think that I am a poor source of information when it comes to deciding a research topic.

When they choose a research topic people do not turn to me for advice.

People that I know pick research topics based on what I have told them.

People rarely repeat things I have told them about research topics to other people.

What I say about research topics rarely changes other peoples' minds.

I often persuade other people to undertake research topics that I like.

Other people rarely come to me for advice about choosing their research topic.

I often influence people's opinion about research topics.

Now, a few questions about yourself

This information will be treated in the strictest confidence, and only be used for classification purposes.

40 What is your job title?

41 Please indicate which university and university department you work for?

Department

University

Region/State

Country

42 Please indicate the total length of time you have spent in University employment?

43 How long have you been in your present employment position

44 What is your highest qualification?

45 How many postgraduate research projects (honours, Masters, PhD, diploma etc.) are you currently supervising?

 projects

46 What is your country of origin ?

47 What is your gender?

Finally, we would appreciate some feedback on this survey

48 Approximately how long did it take you to complete this survey?

49 How would you rate the time to download each page?

50 Some questions require you to answer by either selecting an option from a drop down box or clicking on a check button or typing in an answer. Which method did you prefer?

51 Have you any other comments about this survey you wish to make?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW

52 Would you be willing for us to contact you at some later date with a short follow-up survey?

☐ Yes

☐ No

Finally to avoid sending out reminders to respondents who have already completed the questionnaire could you please enter your e-mail address in the field below.

Your e-mail address will not be associated with the rest of the data collected and will only be used to stop you receiving reminder e-mail messages about the survey. There is no requirement for you to supply your e-mail address.

Thank you for participating in this survey. Your survey has been submitted and a summary of the results will be available on the Department of Marketing Web site soon.

Department of Marketing Massey University  
Marketing Bulletin

# Marketing Bulletin

Appendix 5. Multiple web page questionnaire with and without validation

COMPUTER USE AT WORK

1 Which of the following apply to your work situation?

PLEASE TICK ALL THAT APPLY

- ☐ I have a computer in my office for my sole use
- ☐ There is a computer in my office I share with others
- ☐ There is a computer in my building I can use
- ☐ I don't have access to a computer at work

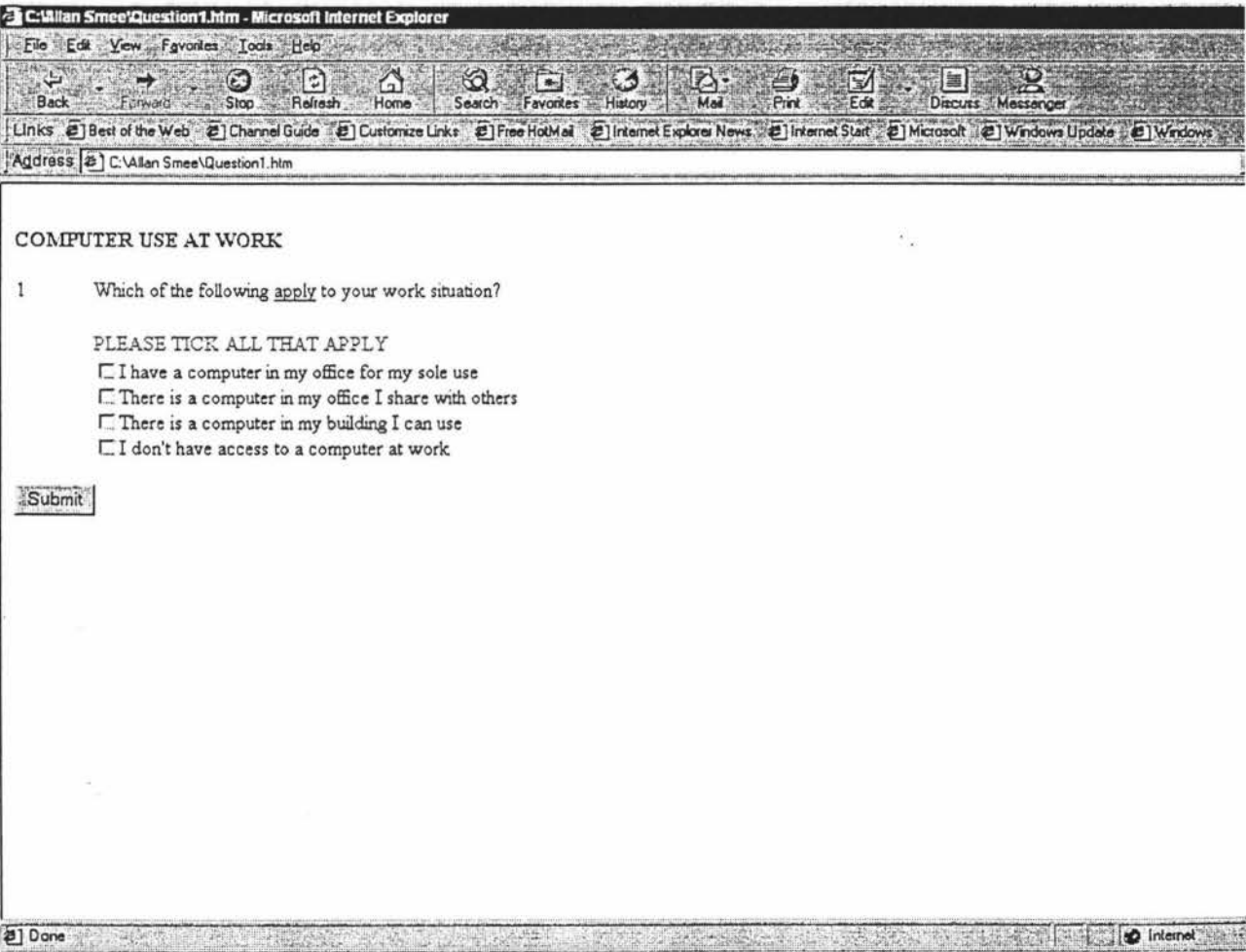


Figure 11. Screen Shot of Question 1

- 2 Now I would like to ask you some questions about the computer you have access to at work.

PLEASE SELECT THE APPROPRIATE RESPONSE FROM THE DROP DOWN BOX

a) What is the main type of computer you have access to at work?

b) What operating system are you running?

IF OTHER PLEASE SPECIFY

The screenshot shows a Microsoft Internet Explorer browser window with the title bar 'C:\Allan Smee\question2.htm - Microsoft Internet Explorer'. The address bar shows 'C:\Allan Smee\question2.htm'. The main content area displays the following text:

**COMPUTER USE AT WORK (cont.)**

2 Now I would like to ask you some questions about the computer you have access to at work.

PLEASE SELECT THE APPROPRIATE RESPONSE FROM THE DROP DOWN BOX

a) What is the main type of computer you have access to at work?

b) What operating system are you running?

IF OTHER PLEASE SPECIFY

Figure 12 Screen shot of question 2



**COMPUTER USE AT WORK (cont.)**

2 c) What is the main Internet browser that you use on your work computer?

IF OTHER PLEASE SPECIFY

d) Does your computer have a CD-ROM?

☐ Yes

☐ No

e) Does your computer have a DVD (Digital Video Disk) Drive?

☐ Yes

☐ No

f) Does your computer have a sound card?

☐ Yes

☐ No

g) Do you have a microphone that can be plugged in to your computer?

☐ Yes

☐ No

3 C:\Allen Smeel\Question2c.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\Allen Smeel\Question2c.htm Go

**COMPUTER USE AT WORK (cont.)**

2 c) What is the main Internet browser that you use on your work computer?

IF OTHER PLEASE SPECIFY

d) Does your computer have a CD-ROM? ☒ Yes ☐ No

e) Does your computer have a DVD (Digital Video Disk) Drive? ☐ Yes ☐ No

f) Does your computer have a sound card? ☐ Yes ☐ No

g) Do you have a microphone that can be plugged in to your computer? ☐ Yes ☐ No

Done Internet

Figure 13. Screen shot of questions 2c-2g

**COMPUTER USE AT WORK (cont.)**

- 3 Is your work computer connected to the Internet?
- ☐ Yes
- ☐ No

C:\WINDOWS\Profiles\akamee\My Documents\question4.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\WINDOWS\Profiles\akamee\My Documents\question4.htm Go

COMPUTER USE AT WORK (cont.)

4 Do you connect your work computer to the Internet via the University computer network or via an independent Internet Service Provider (ISP)?  
PLEASE SELECT THE APPROPRIATE RESPONSE FROM THE DROP DOWN BOX

IF OTHER PLEASE SPECIFY

Done Internet

Figure 15 Screen Shot of question 4

Web page 6

COMPUTER USE AT WORK (cont.)

5 What is the average number of hours per week you would spend on a computer, **at work**, for work purposes?

6 What is the average number of hours per week you would spend on a computer, **at work**, for personal purposes??

C:\Alan Smee\question5&6.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\Alan Smee\question5&6.htm Go

COMPUTER USE AT WORK (cont.)

5 What is the average number of hours per week you would spend on a computer, at work, for work purposes?

6 What is the average number of hours per week you would spend on a computer, at work, for personal purposes??

Done Internet

Figure 16. Screen Shot of question 5-6

#### COMPUTER USE AT HOME

Now I would like to ask you about computer usage at home.

7 Do you have a computer at home?

- ☐ Yes
- ☐ No

Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\Alan Smee\question5&6.htm Go

COMPUTER USE AT WORK (cont.)

5 What is the average number of hours per week you would spend on a computer, at work, for work purposes?

6 What is the average number of hours per week you would spend on a computer, at work, for personal purposes??

Done Internet

Figure 17. Screen shot of question 5-6

Now I would like to ask you about computer usage at home.

7 Do you have a computer at home?

- ☐ Yes
- ☐ No

COMPUTER USE AT HOME

Now I would like to ask you about computer usage at home.

7 Do you have a computer at home?

C Yes  
C No

Submit

Figure 18. Screen Shot of question 7

COMPUTER USE AT HOME (cont.)

- 8 Is your home computer privately owned, or is it university property?
- IF OTHER PLEASE SPECIFY
- 9 What is the main type of computer you have access to at home?
- b) What operating system are you running?
- IF OTHER PLEASE SPECIFY

Microsoft Internet Explorer window showing a survey titled "COMPUTER USE AT HOME (cont.)". The survey contains questions 8 and 9, each with a dropdown menu and a text input field for "OTHER PLEASE SPECIFY". A "Submit" button is visible at the bottom left of the form area.

COMPUTER USE AT HOME (cont.)

8 Is your home computer privately owned, or is it university property?

IF OTHER PLEASE SPECIFY

9 What is the main type of computer you have access to at home?

b) What operating system are you running?

IF OTHER PLEASE SPECIFY

Figure 19. Screen Shot of question 8-9

**COMPUTER USE AT HOME (cont.)**

9 c) What is the main Internet browser that you use at home?

IF OTHER PLEASE SPECIFY

d) Does your computer have a CD-ROM?

☐ Yes

☐ No

e) Does your computer have a DVD (Digital Video Disk) Drive?

☐ Yes

☐ No

f) Does your computer have a sound card?

☐ Yes

☐ No

g) Do you have a microphone that can be plugged in to your computer?

☐ Yes

☐ No



3 Allen SmeelQuestion9c.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\Allen Smeel\Question9c.htm Go

COMPUTER USE AT HOME (cont.)

9 c) What is the main Internet browser that you use at home?

IF OTHER PLEASE SPECIFY

d) Does your computer have a CD-ROM? ☐ Yes ☐ No

e) Does your computer have a DVD (Digital Video Disk) Drive? ☐ Yes ☐ No

f) Does your computer have a sound card? ☐ Yes ☐ No

g) Do you have a microphone that can be plugged in to your computer? ☐ Yes ☐ No

Done Internet

Figure 20. Screen Shot of question 9c-9g

### COMPUTER USE AT HOME (cont.)

10 Is your home computer connected to the Internet?

- ☐ Yes  
☐ No

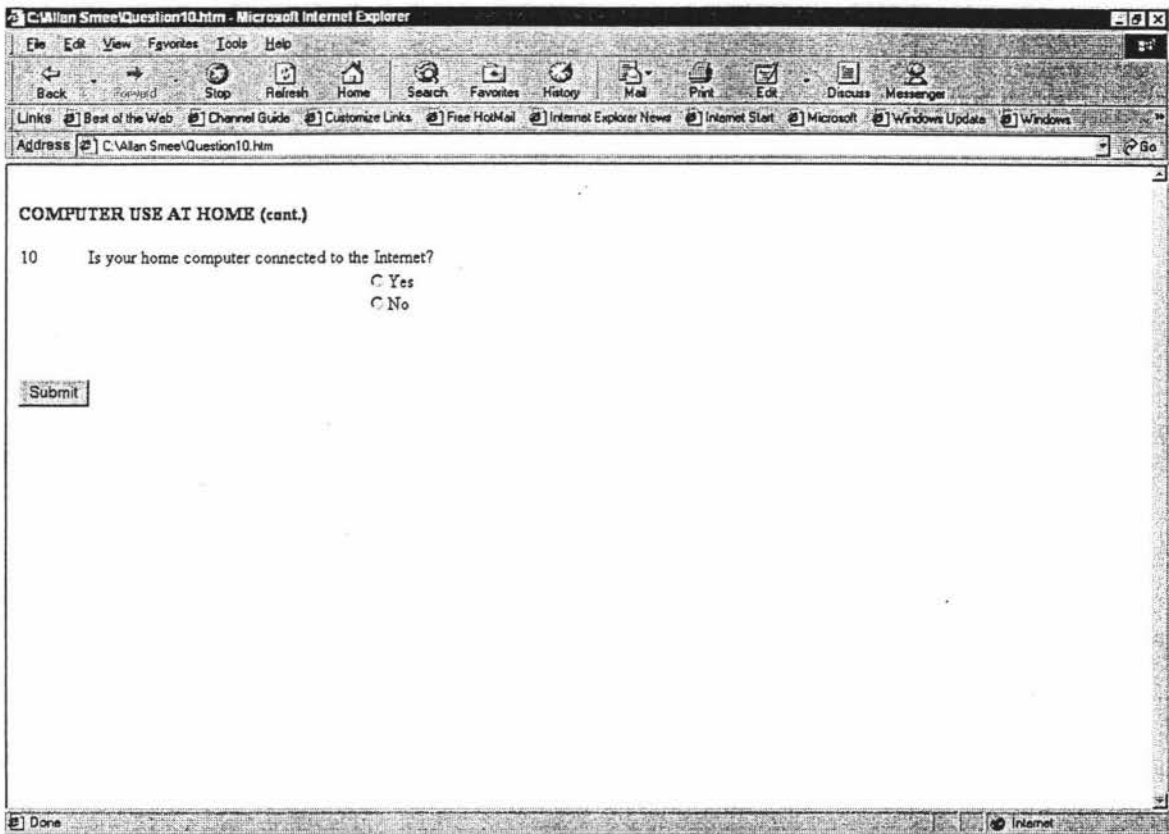


Figure 21. Screen shot question 10

**COMPUTER USE AT HOME (cont.)**

11 Do you connect your home computer to the Internet via the University computer network or via an independent Internet Service Provider (ISP)?

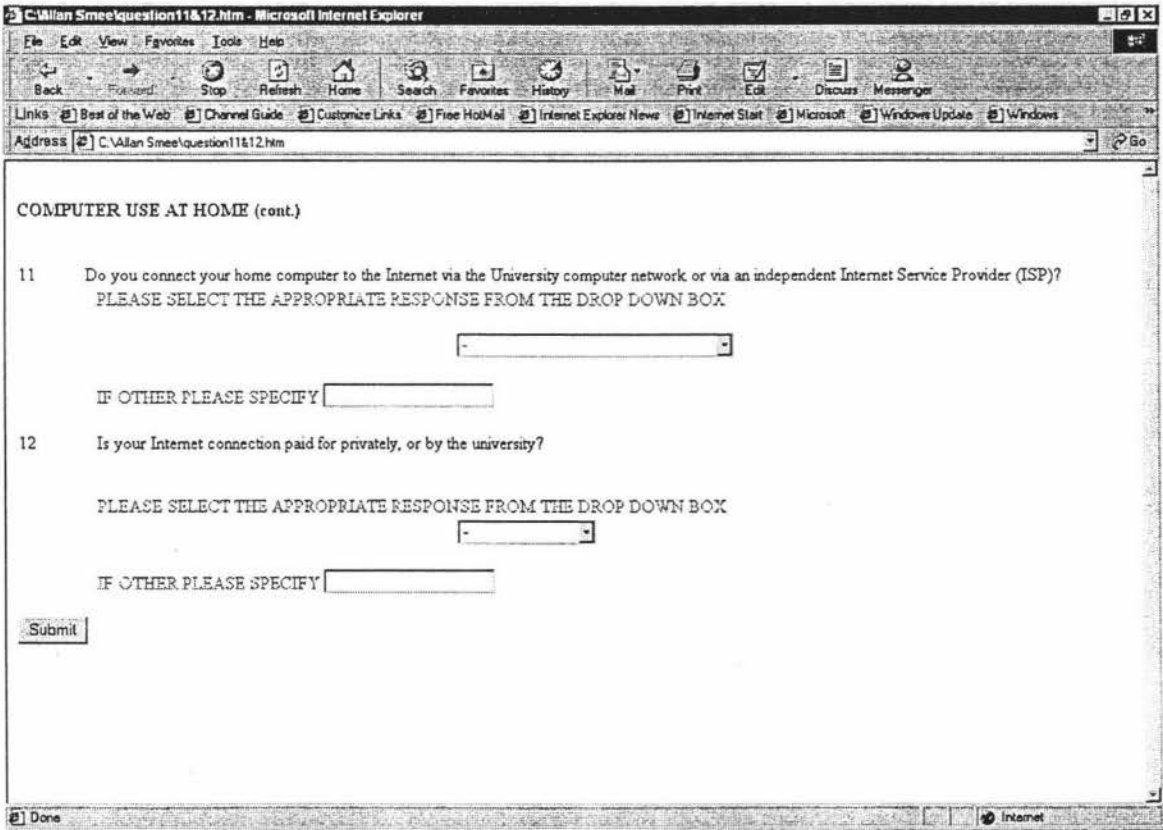
PLEASE SELECT THE APPROPRIATE RESPONSE FROM THE DROP DOWN BOX

IF OTHER PLEASE SPECIFY

12 Is your Internet connection paid for privately, or by the university?

PLEASE SELECT THE APPROPRIATE RESPONSE FROM THE DROP DOWN BOX

IF OTHER PLEASE SPECIFY



**Figure 22** Screen shot of question 11-12

**COMPUTER USE AT HOME (Cont.)**

13 What is the average number of hours per week you would spend on a computer at, **home**, for work purposes?

14 What is the average number of hours per week you would spend on a computer at, **home**, for personal purposes?

**COMPUTER USE AT HOME (Cont.)**

13 What is the average number of hours per week you would spend on a computer at, **home**, for work purposes?

14 What is the average number of hours per week you would spend on a computer at, **home**, for personal purposes?

**Figure 23** Screen shot of question 13-14

## COMPUTER SUPPORT

Now I would like to ask you about any computer support you receive at work.

15 Do you have access to technical support at work to fix any hardware problems? By hardware, I mean problems with the monitor, disk drives, CD ROM etc.

☐ Yes

☐ No

The screenshot shows a Microsoft Internet Explorer window with the title bar 'C:\Allan Smee\question15.htm - Microsoft Internet Explorer'. The menu bar includes File, Edit, View, Favorites, Tools, and Help. The toolbar contains icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, History, Mail, Print, Edit, Discuss, and Messenger. The Links bar shows a list of links: Best of the Web, Channel Guide, Customize Links, Free HotMail, Internet Explorer News, Internet Start, Microsoft, Windows Update, and Windows. The Address bar displays 'C:\Allan Smee\question15.htm'. The main content area contains the following text:

**COMPUTER SUPPORT**

Now I would like to ask you about any computer support you receive at work.

15 Do you have access to technical support at work to fix any hardware problems? By hardware, I mean problems with the monitor, disk drives, CD ROM etc.

☐ Yes  
☐ No

Submit

The status bar at the bottom shows 'Done' and 'Internet'.

Figure 24. Screen shot of question 15

**COMPUTER SUPPORT (cont.)**

16 At what level is this support provided?

PLEASE TICK ALL THAT APPLY

- ☐ Departmental technician
- ☐ College or Faculty technician
- ☐ University Services technician
- ☐ Outside supplier/contractor

17 How would you rate the support you have available?

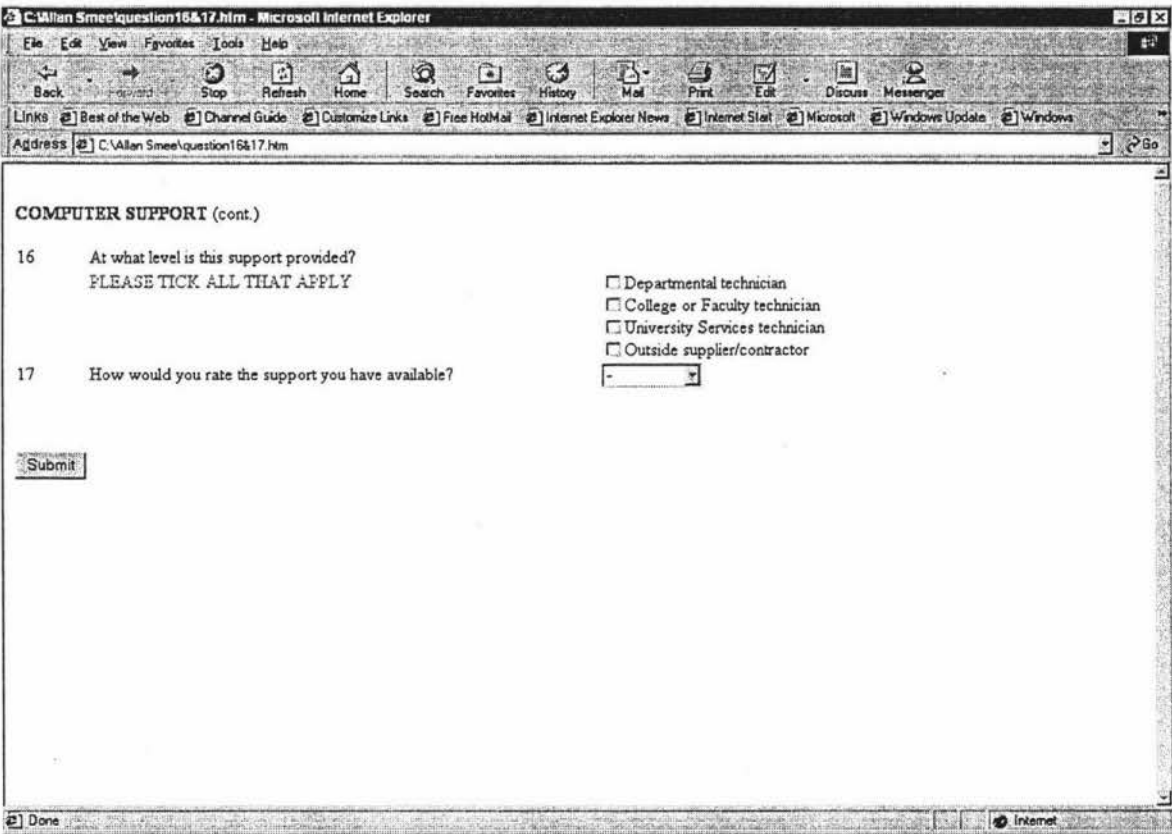


Figure 25. Screen shot of question 16-17

## COMPUTER SUPPORT (cont.)

- 18 Do you have access to assistance if you are having problems with software or applications?(e.g., installing, running , modifying, using or uninstalling programmes)

☐ Yes

☐ No

The screenshot shows a Microsoft Internet Explorer browser window. The title bar reads "C:\Allan Smee\question18.htm - Microsoft Internet Explorer". The menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The toolbar contains icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, History, Mail, Print, Edit, Discuss, and Messenger. The address bar shows "Address C:\Allan Smee\question18.htm" with a "Go" button. The main content area displays the following text:

COMPUTER SUPPORT (cont.)

18 Do you have access to assistance if you are having problems with software or applications?(e.g., installing, running , modifying, using or uninstalling programmes)

☐ Yes

☐ No

Below the radio buttons is a "Submit" button.

The status bar at the bottom shows "Done" and "Internet".

Figure 26. Screen shot of question 18

### COMPUTER SUPPORT (cont.)

- 19 At what level is this support provided?  
PLEASE TICK ALL THAT APPLY

- ☐ Departmental technician  
☐ College or Faculty technician  
☐ University Services technician  
☐ Outside supplier/contractor ( i.e. Software vendor helpline)

- 20 How would you rate the support you have available ?

COMPUTER SUPPORT (cont.)

19 At what level is this support provided?  
PLEASE TICK ALL THAT APPLY

☐ Departmental technician  
☐ College or Faculty technician  
☐ University Services technician  
☐ Outside supplier/contractor ( i.e. Software vendor helpline)

20 How would you rate the support you have available ?

Figure 27. Screen shot of question 19-20



COMPUTER SUPPORT (cont.)

21 Do you have access to computer training? By this I mean formal assistance in learning to use new computer programmes or applications.

- ☐ Yes
- ☐ No

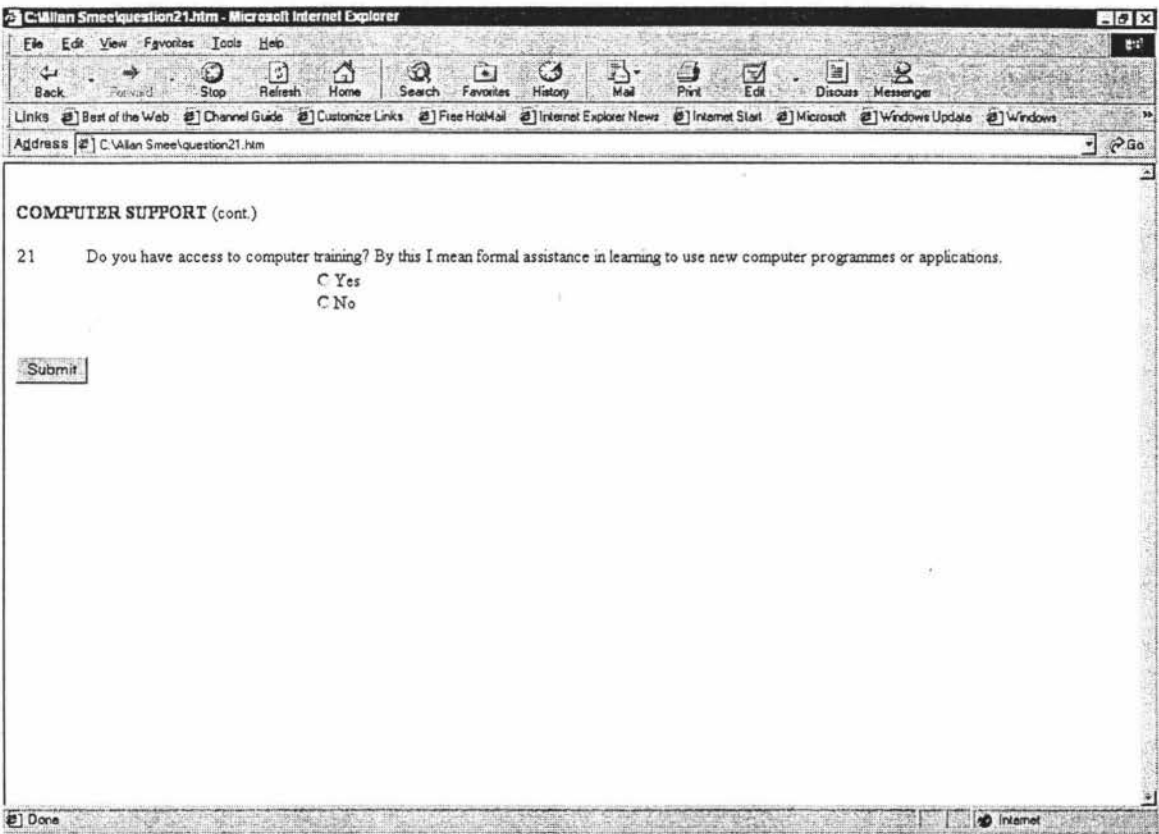


Figure 28. Screen shot of question 21

**COMPUTER SUPPORT (cont.)**

22 At what level is this support provided?  
PLEASE CHECK ALL THAT APPLY

- ☐ Departmental computer consultant/trainer
- ☐ College or Faculty consultant/trainer
- ☐ University computer consultant/trainer
- ☐ Outside training organization

23 How would you rate the training you have available?

C:\Allan Smee\question2223.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\Allan Smee\question2223.htm Go

**COMPUTER SUPPORT (cont.)**

22 At what level is this support provided?  
PLEASE CHECK ALL THAT APPLY

- ☐ Departmental computer consultant/trainer
- ☐ College or Faculty consultant/trainer
- ☐ University computer consultant/trainer
- ☐ Outside training organization

23 How would you rate the training you have available?

Submit

Done Internet

**Figure 29. Screen shot of question 22-23**

## USE OF INFORMATION TECHNOLOGY IN TEACHING

Now I would like to ask you about use of information technology in teaching.

24 Have you used any of the following media for teaching purposes?

PLEASE TICK ALL THAT APPLY

- ☐ CD ROM
- ☐ DVD (Digital Video Disk)
- ☐ Email
- ☐ Video-conferencing
- ☐ Other
- ☐ None of the above

IF OTHER PLEASE SPECIFY

25 Have you developed or taught a course of the study that involves some elements of web or internet based teaching

- ☐ Yes
- ☐ No

C:\Allan Smee\Question2425.htm - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\Allan Smee\Question2425.htm Go

USE OF INFORMATION TECHNOLOGY IN TEACHING

Now I would like to ask you about use of information technology in teaching.

24 Have you used any of the following media for teaching purposes?

PLEASE TICK ALL THAT APPLY

- ☐ CD ROM
- ☐ DVD (Digital Video Disk)
- ☐ Email
- ☐ Video-conferencing
- ☐ Other
- ☐ None of the above

IF OTHER PLEASE SPECIFY

25 Have you developed or taught a course of the study that involves some elements of web or internet based teaching

- ☐ Yes
- ☐ No

Submit

Done Internet

Figure 30 Screen shot of question 24-25

26. Please indicate whether your course contains any of the following web based teaching elements

Student led collaborative e-mail or chat discussion forum

☐

Distribution of Administration material to students

☐

Calendar of important dates for the course

☐

Student Web pages

☐

External Site links

☐

On-line examination of test that are a part of the overall assessment for the course

☐

Glossary of terms relating to the course subject

☐

Frequently asked questions regarding course material

☐

On-line test or examination that is used by students to determine their progress, but aren't part of the overall assessment for the course

☐

Other IF OTHER PLEASE SPECIFY

☐

Untitled Document - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger

Links Best of the Web Channel Guide Customize Links Free HotMail Internet Explorer News Internet Start Microsoft Windows Update Windows

Address C:\WINDOWS\Profiles\akamee\My Documents\TMP944181634.htm Go

26. Please indicate whether your course contains any of the following web based teaching elements

Student led collaborative e-mail or chat discussion forum	<input type="checkbox"/>
Distribution of Administration material to students	<input type="checkbox"/>
Calendar of important dates for the course	<input type="checkbox"/>
Student Web pages	<input type="checkbox"/>
External Site links	<input type="checkbox"/>
On-line examination of test that are a part of the overall assessment for the course	<input type="checkbox"/>
Glossary of terms relating to the course subject	<input type="checkbox"/>
Frequently asked questions regarding course material	<input type="checkbox"/>
On-line test or examination that is used by students to determine their progress, but aren't part of the overall assessment for the course	<input type="checkbox"/>
Other IF OTHER PLEASE SPECIFY	<input type="text"/>

Submit

Done My Computer

Figure 31 Screen shot of question 19

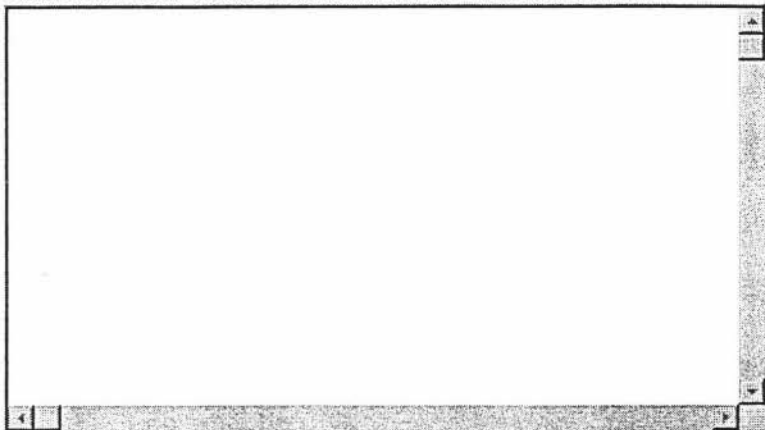
- 27 Which software have you used to develop your Web-based course?  
PLEASE INDICATE WHICH SOFTWARE YOU HAVE USED BY SELECTING THE APPROPRIATE RESPONSE FROM THE CORRESPONDING DROP DOWN BOX
- Now please rate the software you have used to develop web based teachings site in terms of "ease of use" using the following scale

	Used	Rating
Macromedia Dreamweaver	<input type="text"/>	<input type="text"/>
Web CT	<input type="text"/>	<input type="text"/>
Microsoft Frontpage	<input type="text"/>	<input type="text"/>
Netscape Composer	<input type="text"/>	<input type="text"/>
Macromedia Director	<input type="text"/>	<input type="text"/>
Microsoft NetMeeting	<input type="text"/>	<input type="text"/>
Lotus Notes	<input type="text"/>	<input type="text"/>
Note Pad	<input type="text"/>	<input type="text"/>
Other (PLEASE SPECIFY) <input type="text"/>	<input type="text"/>	<input type="text"/>
Other (PLEASE SPECIFY) <input type="text"/>	<input type="text"/>	<input type="text"/>
Other (PLEASE SPECIFY) <input type="text"/>	<input type="text"/>	<input type="text"/>

	Used	Rating
Macromedia Dreamweaver	-	-
Web CT	-	-
Microsoft Frontpage	-	-
Netscape Composer	-	-
Macromedia Director	-	-
Microsoft NetMeeting	-	-
Lotus Notes	-	-
Note Pad	-	-
Other (PLEASE SPECIFY)	-	-
Other (PLEASE SPECIFY)	-	-
Other (PLEASE SPECIFY)	-	-

**Figure 32. Screen Shot of question 27**

28 What would you say are the main issues you have encountered when trying to adopt this new computer technology for teaching  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW

A large rectangular box for typing comments. The box has a thick, shaded border. In the bottom-left corner, there is a small square icon with a left-pointing arrow. In the bottom-right corner, there is a small square icon with a right-pointing arrow. The interior of the box is white and empty.



29 Did you receive any technical assistance to develop your web based teaching resources?

☐ Yes

☐ No



COMPUTER SUPPORT (cont.)

29 Did you receive any technical assistance to develop your web based teaching resources?

☐ Yes

☐ No

Submit

Figure 34 Screen Shot of question 29

**INTERNET PUBLICATIONS**

Now we would like to ask you some questions regarding Internet publications

31 When was the last time that you visited an on-line business or commerce related journal

32 What are the names of the on-line journals you have visited?

1		2	
3		4	
5		6	
7		8	
9		10	



## INTERNET PUBLICATIONS

Now we would like to ask you some questions regarding Internet publications

- 31 When was the last time that you visited an on-line business or commerce related journal

- 32 What are the names of the on-line journals you have visited?

1  2

3  4

5  6

7  8

9  10

**Figure 36. Screen shot of question 31**

**INTERNET PUBLICATIONS (cont.)**

- 33 How important are the following features of on-line journals  
PLEASE RATE THE IMPORTANCE OF EACH FEATURE BY SELECTING THE APPROPRIATE  
RESPONSE FROM THE DROP DOWN BOX.

All articles published online should include full text and graphics	-
All articles published online should provide the data as an attachment	-
Online articles should be in both web(html) and Adobe Acrobat (pdf) format	-
Online journals should also publish a printed version	-
There should be counters, to indicate the number of people who have viewed an article in an online journal	-
An online journal should provide a discussion forum	-
There should be a facility for appending readers' comments to an article published on-line	-
It should be possible to search an online journal electronically using keywords	-
Access to an online journal should be free	-
There should be no charge for downloading articles published in an online journal	-
Online articles should provide email hotlinks to the authors	-
Online journals should allow online peer reviews	-
Online journals should provide a facility for notifying registered readers of new articles	-
Online journals should publish articles as they come to hand	-
Online journals should accept papers in electronic format (e.g. e-mail attachments)	-

Internet Explorer toolbar: Address E:\Allan Smeeth\Question33c.htm Go

**INTERNET PUBLICATIONS (cont.)**

33 How important are the following features of on-line journals

PLEASE RATE THE IMPORTANCE OF EACH FEATURE BY SELECTING THE APPROPRIATE RESPONSE FROM THE DROP DOWN BOX.

All articles published online should include full text and graphics	-
All articles published online should provide the data as an attachment	-
Online articles should be in both web(html) and Adobe Acrobat (pdf) format	-
Online journals should also publish a printed version	-
There should be counters, to indicate the number of people who have viewed an article in an online journal	-
An online journal should provide a discussion forum	-
There should be a facility for appending readers' comments to an article published on-line	-
It should be possible to search an online journal electronically using keywords	-
Access to an online journal should be free	-
There should be no charge for downloading articles published in an online journal	-
Online articles should provide email hotlinks to the authors	-

**Figure 37. Screen shot of question 33**

INTERNET PUBLICATIONS(cont.)

- 34 Are there any other features that you think an on-line journal should have?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW

The screenshot shows a web browser window with a toolbar at the top containing various icons for navigation and editing. The address bar displays "Address E:\Allan Smee\Question34.htm" with a "Go" button to its right. Below the address bar is a large, empty rectangular text input box for comments. The browser window has a standard title bar with minimize, maximize, and close buttons.

INTERNET PUBLICATIONS(cont.)

- 34 Are there any other features that you think an on-line journal should have?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW

This screenshot is similar to the one above, showing a web browser window with a toolbar and an address bar displaying "Address E:\Allan Smee\Question34.htm". Below the address bar is a large, empty rectangular text input box for comments. A "Submit" button is visible at the bottom left of the page.

Figure 38. Screen shot of question 34

INTERNET PUBLICATIONS(cont.)

35 We would like to know what the chances are of you submitting a paper to a journal in the near future.

a) Using the scale below and taking everything into account, what are the chances that you would submit a paper to a traditional academic journal in the next six (6) months?


PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

b) What about in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

SCALE INSTRUCTIONS

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

	10	Certain, Practically Certain	(99 in 100)
	9	Almost Sure	(9 in 10)
	8	Very Probable	(8 in 10)
	7	Probable	(7 in 10)
	6	Good Possibility	(6 in 10)
	5	Fairly Good Possibility	(5 in 10)
	4	Fair Possibility	(4 in 10)
	3	Some Possibility	(3 in 10)
	2	Slight Possibility	(2 in 10)
	1	Very Slight Possibility	(1 in 10)
	0	No Chance, Almost No Chance	(1 in 100)

# INTERNET PUBLICATIONS(cont.)

35 We would like to know what the chances are of you submitting a paper to a journal in the near future.

a) Using the scale below and taking everything into account, what are the chances that you would submit a paper to a traditional academic journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

b) What about in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

## SCALE INSTRUCTIONS

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

Figure 39. Screen shot of question 35a and b



INTERNET PUBLICATIONS(cont.)

We would now like to know what the chances are of you submitting a paper to an online journal in the near future.

- 35 c) Using the scale below and taking everything into account, what are the chances that you would submit a paper to an online journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

- d) What about in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

SCALE INSTRUCTIONS

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

INTERNET PUBLICATIONS(cont.)

We would now like to know what the chances are of you submitting a paper to an online journal in the near future.

35 c) Using the scale below and taking everything into account, what are the chances that you would submit a paper to an online journal in the next six (6) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

d) What about in the next twelve (12) months?

PLEASE TYPE YOUR ANSWER BETWEEN 0 AND 10 HERE

SCALE INSTRUCTIONS

If you are certain, or practically certain that you would submit a paper to a journal then you should choose the answer '10'. If you think there is no chance or almost no chance of submitting a paper to an online journal, the best answer would be '0'. If you are uncertain about the chances, choose an answer as close to '0' or '10' as you think it should be.

+	10	Certain, Practically Certain	(99 in 100)
+	9	Almost Sure	(9 in 10)
+	8	Very Probable	(8 in 10)
+	7	Probable	(7 in 10)
+	6	Good Possibility	(6 in 10)
+	5	Fairly Good Possibility	(5 in 10)
+	4	Fair Possibility	(4 in 10)
+	3	Some Possibility	(3 in 10)
+	2	Slight Possibility	(2 in 10)
+	1	Very Slight Possibility	(1 in 10)
+	0	No Chance, Almost No Chance	(1 in 100)

Figure 40. Screen shot of question 35 c and d

#### WORLD WIDE WEB AS INFORMATION SOURCE

We would like to ask you some questions about using the World Wide Web as a source for information.

- 36 Have you used the World Wide Web to locate information on commerce or business?
- ☐ Yes
- ☐ No

The screenshot shows a web browser window with a toolbar at the top containing various icons for navigation and editing. The address bar displays the path "F:\Alan Smeeth\Question36.htm". The main content area of the browser contains the following text:

WORLD WIDE WEB AS INFORMATION SOURCE

We would like to ask you some questions about using the World Wide Web as a source for information.

36 Have you used the World Wide Web to locate information on commerce or business?

C: Yes  
C: No

At the bottom left of the content area, there is a button labeled "Submit".

**Figure 41. Screen shot of question 36**

WORLD WIDE WEB AS INFORMATION SOURCE (cont.)

37 Please indicate your level of agreement with the following statements:  
PLEASE SELECT THE APPROPRIATE RESPONSE FOR EACH STATEMENT FROM THE  
CORRESPONDING DROP DOWN BOX

I would recommend the use of web as a source of business/commerce research to students or colleagues?	<input type="text"/>
Information obtained the over the Web is just as reliable as information obtain from other sources	<input type="text"/>
Business and commerce information obtained off the web is timely and specific	<input type="text"/>
The Web will become an increasingly popular source of information for Business/Commerce academics	<input type="text"/>
Students should be encouraged to use the Web as a source of Business/Commerce information	<input type="text"/>

Address F:\Alan Smee\question37.htm

WORLD WIDE WEB AS INFORMATION SOURCE (cont.)

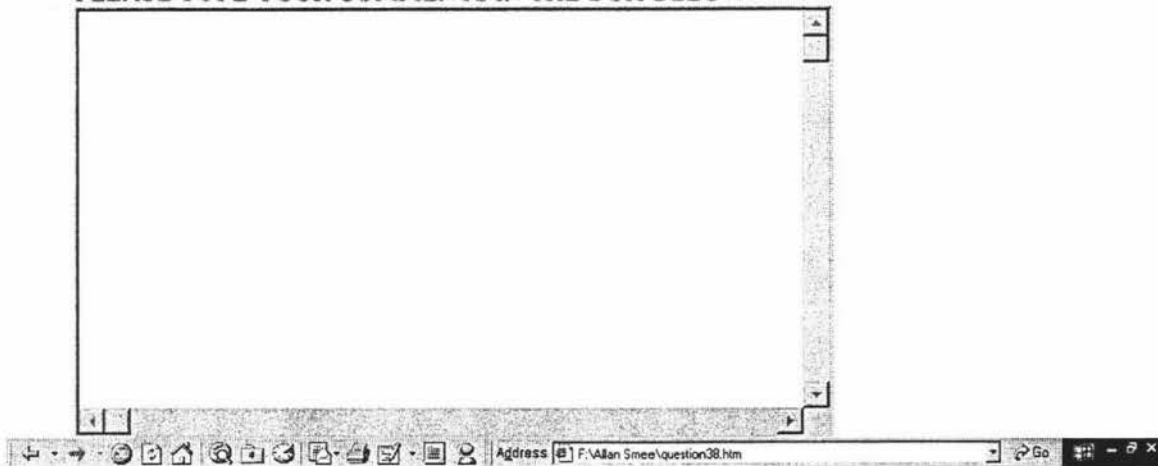
37 Please indicate your level of agreement with the following statements:  
PLEASE SELECT THE APPROPRIATE RESPONSE FOR EACH STATEMENT FROM THE CORRESPONDING DROP DOWN BOX

I would recommend the use of web as a source of business/commerce research to students or colleagues?	<input type="text"/>
Information obtained the over the Web is just as reliable as information obtain from other sources	<input type="text"/>
Business and commerce information obtained off the web is timely and specific	<input type="text"/>
The Web will become an increasingly popular source of information for Business/Commerce academics	<input type="text"/>
Students should be encouraged to use the Web as a source of Business/Commerce information	<input type="text"/>

Figure 42. Screen shot of question 37

WORLD WIDE WEB AS INFORMATION SOURCE (cont.)

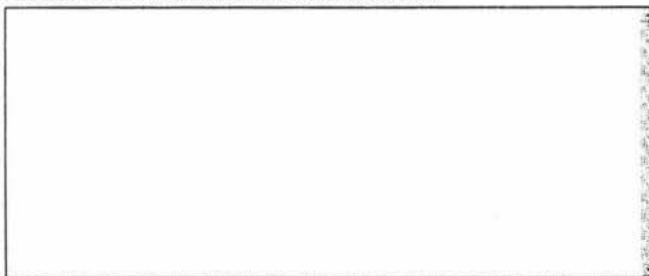
- 38 What is your opinion of the World Wide Web as a vehicle for obtaining information?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW



A screenshot of a web browser window. The browser's address bar shows the path "F:\Allan Smee\question38.htm". The main content area of the browser contains a large, empty rectangular text input box with a thin border. The browser's toolbar at the bottom includes various icons for navigation and editing.

WORLD WIDE WEB AS INFORMATION SOURCE (cont.)

- 38 What is your opinion of the World Wide Web as a vehicle for obtaining information?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW



A large, empty rectangular text input box with a thin border, intended for the user to type their comments.

Submit

Figure 43. Screen Shot question 38

ACADEMIC RESEARCH

Now we would like to ask you some questions about academic research

39 The following questions are about academic research. Please read each statement carefully. FOR EACH OF THE STATEMENTS, PLEASE SELECT THE NUMBER THAT MOST CLOSELY MATCHES YOUR VIEW OF THE OPINION STATED. THE ITEMS ARE SCALED FROM 1 TO 7, WITH A HIGHER NUMBER MEANING STRONGER AGREEMENT.

Other people rarely ask for my comments when they are deciding about possible research topics.

My opinion on new research topics seems not to count with other people.

My opinion influences the types of research other people undertake.

Other people think that I am a poor source of information when it comes to deciding a research topic.

When they choose a research topic people do not turn to me for advice.

People that I know pick research topics based on what I have told them.

People rarely repeat things I have told them about research topics to other people.

What I say about research topics rarely changes other peoples' minds.

I often persuade other people to undertake research topics that I like.

Other people rarely come to me for advice about choosing their research topic.

I often influence people's opinion about research topics.

## ACADEMIC RESEARCH

Now we would like to ask you some questions about academic research

- 39 The following questions are about academic research. Please read each statement carefully.  
FOR EACH OF THE STATEMENTS, PLEASE SELECT THE NUMBER THAT MOST CLOSELY MATCHES YOUR VIEW OF THE  
OPINION STATED. THE ITEMS ARE SCALED FROM 1 TO 7, WITH A HIGHER NUMBER MEANING STRONGER AGREEMENT.
- Other people rarely ask for my comments when they are deciding about possible research topics. ☐
  - My opinion on new research topics seems not to count with other people. ☐
  - My opinion influences the types of research other people undertake. ☐
  - Other people think that I am a poor source of information when it comes to deciding a research topic. ☐
  - When they choose a research topic people do not turn to me for advice. ☐
  - People that I know pick research topics based on what I have told them. ☐
  - People rarely repeat things I have told them about research topics to other people. ☐
  - What I say about research topics rarely changes other peoples' minds. ☐
  - I often persuade other people to undertake research topics that I like. ☐
  - Other people rarely come to me for advice about choosing their research topic. ☐
  - I often influence people's opinion about research topics. ☐

Submit

Figure 44. Screen shot question 39

## Now, a few questions about yourself

This information will be treated in the strictest confidence, and only be used for classification purposes.

- 40 What is your job title?
- 41 Please indicate which university and university department you work for?  
Department   
University   
Region/State   
Country
- 42 Please indicate the total length of time you have spent in University employment?
- 43 How long have you been in your present employment position

← → ↺ ↻ ⌂ 🔍 📄 📧 📁 📅 📆 📇 📈 📉 📊 📋 📌 📍 📎 📏 📐 📑 📔 📕 📖 📗 📙 📚 📛 📜 📝 📞 📟 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿

Address F:\Alan Smee\Question42-45.htm Go

**Now, a few questions about yourself**  
This information will be treated in the strictest confidence, and only be used for classification purposes.

40 What is your job title?

41 Please indicate which university and university department you work for?  
Department   
University   
Region/State   
Country

42 Please indicate the total length of time you have spent in University employment?

43 How long have you been in your present employment position

Figure 45. Screen shot question 40-43



- 44 What is you highest qualification?
- 45 How many postgraduate research projects (honours, Masters, PhD, diploma etc.) are you currently supervising?  projects
- 46 What is your country of origin ?
- 47 What is your gender?



- 44 What is you highest qualification?
- 45 How many postgraduate research projects (honours, Masters, PhD, diploma etc.) are you currently supervising?  projects
- 46 What is your country of origin ?
- 47 What is your gender?

**Figure 46. Screen shot question 40-43**

Finally, we would appreciate some feedback on this survey

48 Approximately how long did it take you to complete this survey?

49 How would you rate the time to download each page?

50 Some questions require you to answer by either selecting an option from a drop down box or clicking on a check button or typing in an answer. Which method did you prefer?



Finally, we would appreciate some feedback on this survey

48 Approximately how long did it take you to complete this survey?

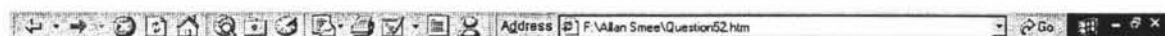
49 How would you rate the time to download each page?

50 Some questions require you to answer by either selecting an option from a drop down box or clicking on a check button or typing in an answer. Which method did you prefer?


Submit

Figure 47. Screen Shot 48-50

51 Have you any other comments about this survey you wish to make?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW



51 Have you any other comments about this survey you wish to make?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW



Submit

52 Would you be willing for us to contact you at some later date with a short follow-up survey?

☐ Yes

☐ No

Finally to avoid sending out reminders to respondents who have already completed the questionnaire could you please enter your e-mail address in the field below.

Your e-mail address will not be associated with the rest of the data collected and will only be used to stop you receiving reminder e-mail messages about the survey. There is no requirement for you to supply your e-mail address.

52 Would you be willing for us to contact you at some later date with a short follow-up survey?

☐ Yes  
☐ No

Finally to avoid sending out reminders to respondents who have already completed the questionnaire could you please enter your e-mail address in the field below.

Your e-mail address will not be associated with the rest of the data collected and will only be used to stop you receiving reminder e-mail messages about the survey. There is no requirement for you to supply your e-mail address.

Thank you for participating in this survey. Your survey has been submitted and a summary of the results will be available on the Department of Marketing Web site soon.



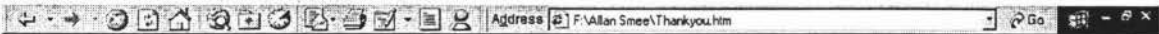
# Marketing Bulletin



[Department of Marketing Massey University](#)

[Marketing Bulletin](#)

[Massey University](#)



Thank you for participating in this survey. Your survey has been submitted and a summary of the results will be available on the Department of Marketing Web site soon.



# Marketing Bulletin

[Department of Marketing Massey University](#)

[Marketing Bulletin](#)

[Massey University](#)

## Appendix 6 1<sup>st</sup> contact correspondence with sample

1<sup>st</sup> contact with treatment group (mail)

«Title»«Name\_1» «Name\_2»  
«Ad\_1dress»  
«Address\_2»  
«Address\_3»  
«Address\_4»  
«Address\_5»

July 1999

Dear «Name\_1» «Name\_2»

### SURVEY ON ACADEMIC USE OF INFORMATION TECHNOLOGY

The use of information technology amongst business academics has dramatically increased in the past ten years and has had an impact on a number of different areas including teaching, research, and the dissemination of knowledge. I wish to determine what and how business academics are using this new technology, and would be grateful for your assistance in completing the enclosed survey.

You may be wondering how you were chosen for the survey. I took a sample of names from the staff pages of your department web site and your name was one of those selected. Any information you provide will be treated as strictly confidential and will not be reported in any way that would allow an individual respondent to be identified. A summary of results of the survey will be published on-line at the Department of Marketing web site in late August.

A copy of the survey is enclosed along with a reply paid envelope for your use.

Your input to this survey is important to our study, and would be greatly appreciated. We look forward to receiving your response.

Yours sincerely,  
Allan Smee  
Department of Marketing  
Massey University  
Palmerston North  
New Zealand  
A.K.Smee@massey.ac.nz

1<sup>st</sup> contact with e-mail treatment group (2)

<Name2>  
<Department>  
<University>  
<Address1>  
<Address2>

Dear <Name1> <Name2>

#### SURVEY ON ACADEMIC USE OF INFORMATION TECHNOLOGY

I am contacting you to ask you for your assistance with a survey of business academics. The purpose of this survey is to gather information about the use of information technology for teaching and research among Australasian business academics.

It is clear that the application of information technology is widespread and growing rapidly. However, for many academics, adopting this new technology involves a steep learning curve. It is our belief that this process could be improved by sharing information.

The purpose of this survey is to find out how people are currently using information technology in their teaching and research, and to gather information that may be useful to others. The results of the survey will be published on-line when the study has been completed. Please be assured that your response will be treated in the confidence and the results will only be published in summary form.

The questionnaire is located at the bottom of this message to complete just use the reply feature of your e-mail program and answer the questions by placing an x beside the appropriate responses.

Your input to this survey is important to our study, and would be greatly appreciated. We look forward to receiving your response.

Yours sincerely,

Allan Smee  
Department of Marketing  
Massey University

1<sup>st</sup> contact for web based questionnaires treatment groups (3, 4 & 5)

<Name>  
<Department>  
<University>  
<Address>  
<Address>

Dear <Name>

#### SURVEY ON ACADEMIC USE OF INFORMATION TECHNOLOGY

I am contacting you to ask you for your assistance with a survey of business academics. The purpose of this survey is to gather information about the use of information technology for teaching and research among Australasian business academics.

It is clear that the application of information technology is widespread and growing rapidly. However, for many academics, adopting this new technology involves a steep learning curve. It is our belief that this process could be improved by sharing information.

The purpose of this survey is to find out how people are currently using information technology in their teaching and research, and to gather information that may be useful to others. The results of the survey will be published on-line when the study has been completed. Please be assured that your response will be treated in the confidence and the results will only be published in summary form.

The questionnaire is located on the web, and can be accessed by clicking on the following hyperlink  
<Hyperlink to survey Site>  
or by copying the web address and pasting it in the address box of your Internet browser.

Your input to this survey is important to our study, and would be greatly appreciated. We look forward to receiving your response.

Yours sincerely,

Allan Smee  
Department of Marketing  
Massey University  
Private Bag 11-222  
Palmerston North  
New Zealand  
Phone 00 61 06 350 4355  
E- mail A.K.Smee@massey.ac.nz



## Appendix 7 2<sup>nd</sup> contact correspondence with sample

2<sup>nd</sup> contact with mail treatment group (1)

<Name>  
<Department>  
<University>  
<Address>  
<Address>  
August 1999

Dear <Name>

Approximately a two weeks ago I sent you a letter inviting you to participate in a survey on Academics Use of Information Technology.

If you have already completed and returned the questionnaire, please accept my sincere thanks for your co-operation and support. If you have not yet completed the questionnaire, I would appreciate your assistance. Of course, there is no obligation for you to do so, but I would be grateful if you could set aside a few minutes to complete the enclosed questionnaire and return it to me. A reply paid envelope is enclosed for your use.

The purpose of my research, which is being undertaken by myself and Dr Mike Brennan of the Department of Marketing at Massey University, is to examine the ways that information technology is impacting on how business academics disseminate information to colleagues and students. We are also interested in finding out about the level of support that is provided to academics in adapting this emerging technology to teaching and research.

If you are wondering how you were chosen for this survey, I took a sample of names from the staff pages of your department web site and your name was one of those selected.

Once again, I can assure you that all your answers will be treated as confidential and will only be reported in a summary form.

Allan Smee  
Department of Marketing  
Massey University  
Palmerston North  
New Zealand  
[A.K.Smee@massey.ac.nz](mailto:A.K.Smee@massey.ac.nz)

2<sup>nd</sup> contact with e-mail treatment group (2)

<NAME1> <NAME2>

Dear <Name1> <Name2>

Approximately a week ago I sent you an e-mail regarding a survey on Academics Use of Infotechnology for the Department of Marketing at Massey University.

If you have already completed and returned the questionnaire, please accept my sincere thanks for your co-operation and support. If you have not yet completed the questionnaire, I would greatly appreciate it if you could set aside a few minutes to do so.

The questionnaire is located at the bottom of this message. To complete, just use the reply feature of your e-mail program and answer the questions by placing an x beside the appropriate responses

The purpose of my research, which is being undertaken by myself and Dr Mike Brennan of the Department of Marketing at Massey University, is to examine the ways that information technology is impacting on how business academics disseminate information to colleagues and students. We are also interested in finding out about the level of support that is provided to academics in adapting this emerging technology to teaching and research.

If you are wondering how you were chosen for this survey, I took a sample of names from the staff pages of your department web site and your name was one of those selected.

Once again, I can assure you that all your answers will be treated as confidential and will only be reported in a summary form.

If you have any problems accessing the survey or would like to discuss it please contact me, at A.K.Smee@massey.ac.nz, and I will endeavour to help.

Thank you for your assistance.

Allan Smee  
Department of Marketing  
Massey University  
Private Bag 11-222  
Palmerston North  
New Zealand  
Phone 00 61 06 350 4355  
E-mail A.K.Smee@massey.ac.nz

2<sup>nd</sup> contact with web base treatment groups (3, 4 &5)

<Name>  
<Department>  
<University>  
<Address>  
<Address>  
August 1999

Dear <Name>

Approximately a two weeks ago I sent you a letter inviting you to participate in a survey on Academics Use of Information Technology.

If you have already completed and returned the questionnaire, please accept my sincere thanks for your co-operation and support. If you have not yet completed the questionnaire, I would appreciate your assistance. Of course, there is no obligation for you to do so, but I would be grateful if you could set aside a few minutes to complete the on-line survey. The questionnaire is located on the web, and can be accessed by clicking on the following hyperlink

<<hyperlink>>

or by copying the web address and pasting it in the address box of your Internet browser.

The purpose of my research, which is being undertaken by myself and Dr Mike Brennan of the Department of Marketing at Massey University, is to examine the ways that information technology is impacting on how business academics disseminate information to colleagues and students. We are also interested in finding out about the level of support that is provided to academics in adapting this emerging technology to teaching and research.

If you are wondering how you were chosen for this survey, I took a sample of names from the staff pages of your department web site and your name was one of those selected.

Once again, I can assure you that all your answers will be treated as confidential and will only be reported in a summary form.

Thank you for your assistance.

Allan Smee

Department of Marketing

Massey University

Private Bag 11-222

Palmerston North

New Zealand

Phone 00 61 06 350 4355

E- mail [A.K.Smee@massey.ac.nz](mailto:A.K.Smee@massey.ac.nz)

## Appendix 8 3<sup>rd</sup> contact correspondence with sample

3<sup>rd</sup> contact with mail treatment group (1)

<Name>  
<Department>  
<University>  
<Address>  
<Address>

Dear <Name>

Further to my recent letter regarding a survey on use of Information Technology by business academics.

A large number of respondents have completed and return the questionnaire, but it is important that we get as many responses as possible to ensure that we gain an accurate view of information technology use in academia. If you have not yet completed the questionnaire, I would greatly appreciate it if you could set aside a few minutes to do so.

A copy of the survey is enclosed along with a reply paid envelope for your use.

Once again, I can assure you that all your answers will be treated as confidential and will only be reported in a summary form.

Thank you for your assistance.

Allan Smee  
Department of Marketing  
Massey University  
Palmerston North  
New Zealand  
[A.K.Smee@massey.ac.nz](mailto:A.K.Smee@massey.ac.nz)

## Appendix 9 3<sup>rd</sup> contact correspondence with sample

3<sup>rd</sup> contact with mail treatment group (1)

<Name>  
<Department>  
<University>  
<Address>  
<Address>

Dear <Name>

Further to my recent letter regarding a survey on use of Information Technology by business academics.

A large number of respondents have completed and return the questionnaire, but it is important that we get as many responses as possible to ensure that we gain an accurate view of information technology use in academia. If you have not yet completed the questionnaire, I would greatly appreciate it if you could set aside a few minutes to do so.

A copy of the survey is enclosed along with a reply paid envelope for your use.

Once again, I can assure you that all your answers will be treated as confidential and will only be reported in a summary form.

Thank you for your assistance.

Allan Smee  
Department of Marketing  
Massey University  
Palmerston North  
New Zealand  
[A.K.Smee@massey.ac.nz](mailto:A.K.Smee@massey.ac.nz)

3<sup>rd</sup> contact with e-mail treatment group (2)

Name

Dear Name

Further to my recent letter regarding a survey on use of Information Technology by business academics.

A large number of respondents have completed and return the questionnaire, but it is important that we get as many responses as possible to ensure that we gain an accurate view of information technology, use in academia. If you have not yet completed the questionnaire, I would greatly appreciate it if you could set aside a few minutes to do so.

The questionnaire is located at the bottom off this message. To complete, just use the reply feature of your e-mail program and answer the questions by placing an x beside the appropriate responses.

Once again, I can assure you that all your answers will be treated as confidential and will only be reported in a summary form.

Thank you for your assistance.

Allan Smee

Allan Smee  
Department of Marketing  
Massey University  
Private Bag 11-222  
Palmerston North  
New Zealand  
Phone 00 61 06 350 4355  
E- mail A.K.Smee@massey.ac.nz

3<sup>rd</sup> contact with web based questionnaires treatment groups (3, 4 & 5)

<Name>  
<Department>  
<University>  
<Address>  
<Address>

Dear <name>

Further to my recent e-mail regarding a survey on the use of Information Technology by business academics.

A large number of respondents have completed and return the questionnaire, but it is important that we get as many responses as possible to ensure that we gain an accurate view of information technology use in academia. If you have not yet completed the questionnaire, I would greatly appreciate it if you could set aside a few minutes to do so. You have completed the survey, thank you very much for your assistance.

The questionnaire is located on the web, and can be accessed by clicking on the following hyperlink  
«URL»

or by copying the web address and pasting it in the address box of your Internet browser.

Once again, I can assure you that all your answers will be treated as confidential and will only be reported in a summary form.

Thank you for your assistance.

Allan Smee

Allan Smee  
Department of Marketing  
Massey University  
Private Bag 11-222  
Palmerston North  
New Zealand  
Phone 00 61 06 350 4355  
E- mail A.K.Smee@massey.ac.nz

## APPENDIX 10. Example text areas for open ended questions

INTERNET PUBLICATIONS(cont.)

- 34 Are there any other features that you think an on-line journal should have?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW

--

Submit

Figure 48. Small text box

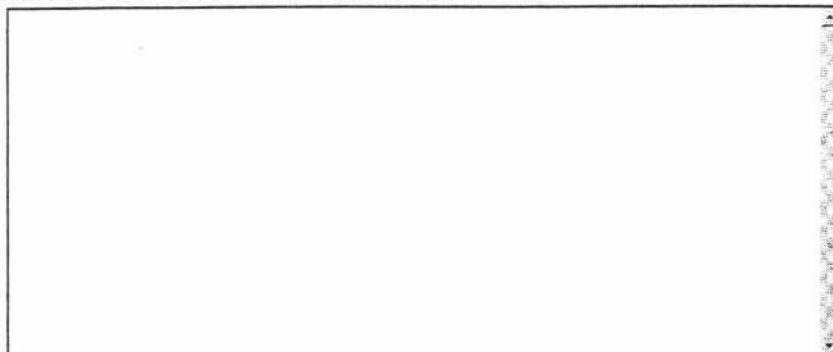
```
<TD width="94%">Are there any other features that you think an on-line  
journal should have?<BR><FONT color=#ff0000>PLEASE TYPE YOUR COMMENTS IN  
THE BOX BELOW</FONT></TD></TR>  
<TR vAlign=top>  
  <TD></TD>  
  <TD width="94%"> <TEXTAREA cols=70 name=q34c rows=3> </TEXTAREA>  
</TD></TR></TBODY></TABLE><BR>
```

Figure 49. Javascript code for text box size



## INTERNET PUBLICATIONS(cont.)

- 34 Are there any other features that you think an on-line journal should have?  
PLEASE TYPE YOUR COMMENTS IN THE BOX BELOW

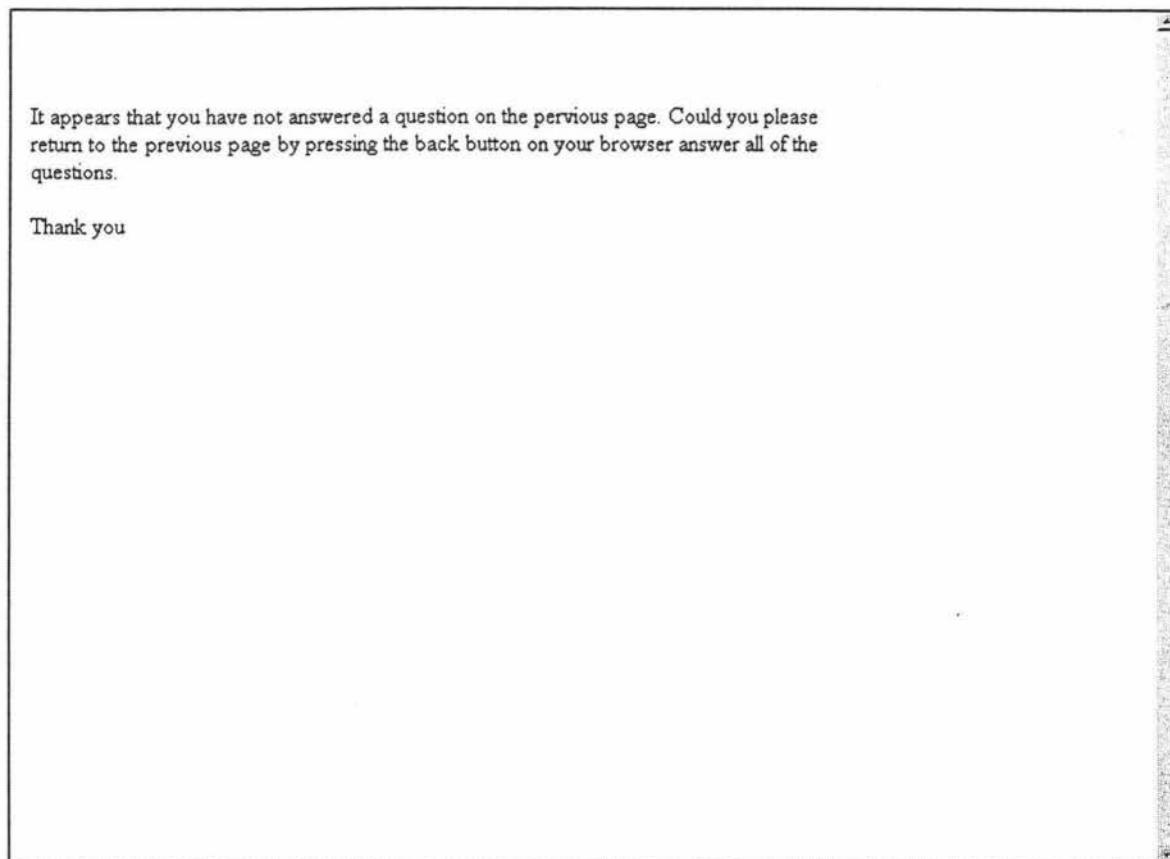


**Figure 50. Large text box area**

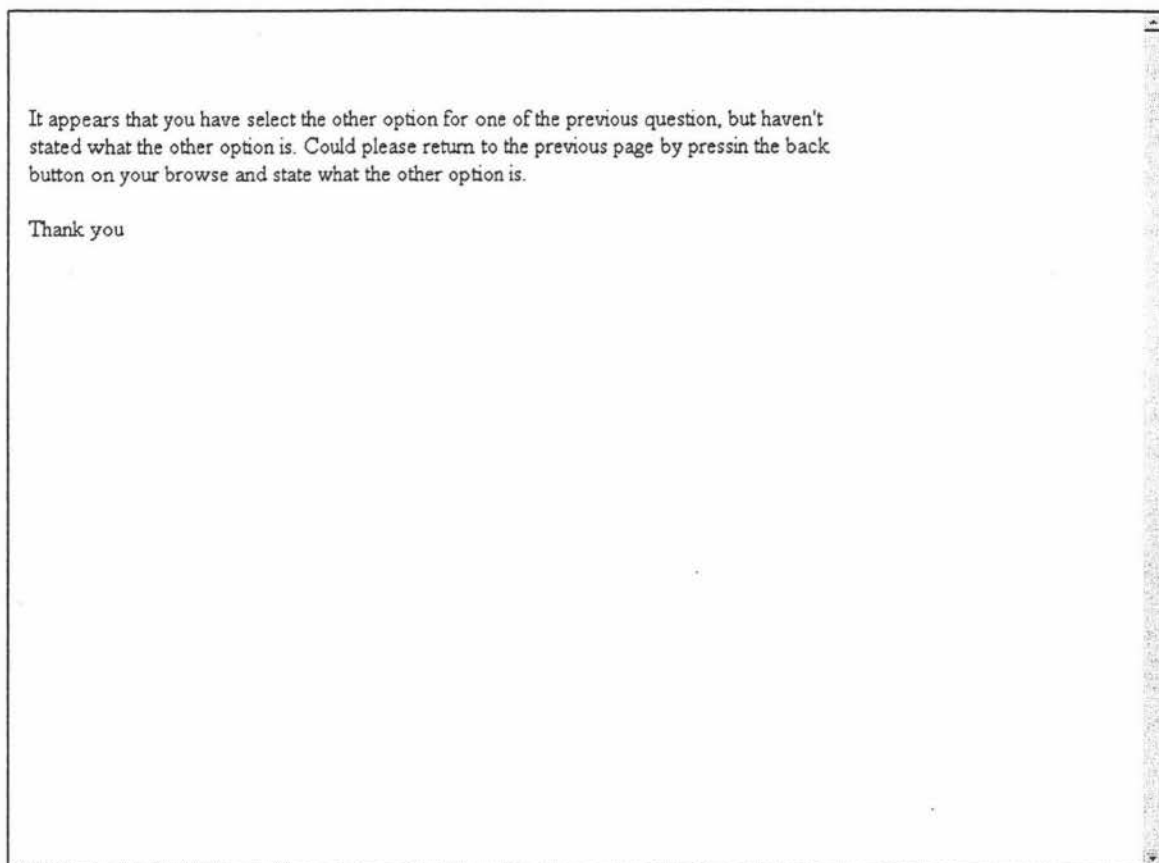
```
TR vAlign=top>
  <TD></TD>
  <TD width="94%"> <TEXTAREA cols=70 name=q34 rows=15> </TEXTAREA>
</TD></TR></TBODY></TABLE><BR>
```

**Figure 51. Javascript for large text box area**

## APPENDIX 11. Error pages



**Figure 52. Standard error page**



**Figure 53. Missing other option error page**