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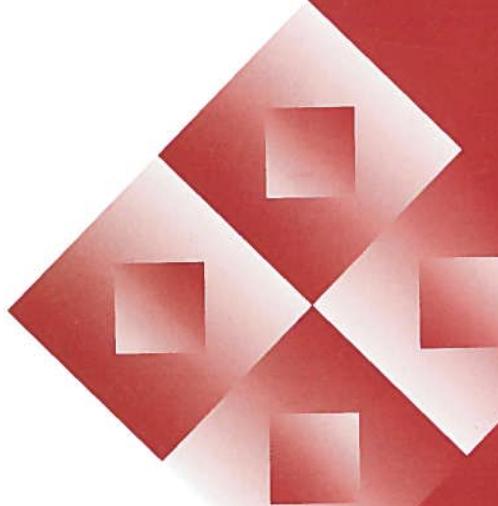
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# LAGERKON

Vol 40 Number/Nommer 1  
March/Maart 2001



Published by the  
Agricultural Economics  
Association of South Africa

Gepubliseer deur die  
Landbou-ekonomiesvereniging  
van Suid-Afrika

## RESEARCH NOTE

## THE POTENTIAL AND USE OF ELECTRONIC MAIL TECHNOLOGY FOR CONDUCTING SURVEYS IN SOUTH AFRICA: A CASE STUDY ENTITLED "SA AGRI-SUCCESS 2000"

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*The pace of change and development of new technology in the new millennium necessitates fast and efficient data accumulation, processing, interpretation and dissemination to maintain a competitive advantage in any information orientated field. With regards to primary data accumulation, if academic institutions stick to rigid traditional tools and not embrace changes in the information/communications revolution they will face the criticism of further irrelevancy. Traditional academic surveys are also one of the most expensive components of any research project budget. Communication technology advancements, such as electronic mail (e-mail), the Internet and Cellular phone technology such as SMS (Short Messaging Service) and WAP (Wireless Application Protocol), create an opportunity to drastically reduce survey costs and time. The use of e-mail as a potential electronic medium for conducting a survey is discussed in this paper. E-mail was chosen because of the minimal costs involved and the specific market that can be targeted. It does, however, have its own problems and limitations. The key question asked in the e-survey was: "What do South African farmers need to do to survive, and better yet: prosper, in the new millennium?" The focus of this paper is not the answers to this question, but on the methodology, shortfalls, profile of respondents, reply statistics and some netiquette tips used in the e-survey.*

### 1. INTRODUCTION

The initial idea for conducting an e-survey came from a paper presented by Mr J. Wilson Loree from the University of Alberta Canada at the 12<sup>th</sup> International Farm Management Congress, 18-24 July 1999 in Durban, South Africa. In preparation, Loree sought advice from one of a group of agriculturalists who had just completed an intensive 18 month agricultural leadership development program, who posted the question "What do North American farmers need to do to survive?" on e-mail to the rest of the group. The paper Loree presented was based on the responses to this e-mail.

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The most cogent reply Loree, however, received, questioned his original question: "Why use the word *survive*? Why not *succeed*? Or *thrive*?" replied one farmer from the group, who responded further: "Survival to me connotes making it through a catastrophe ... a feeling of being powerless and what to do next ..." (Loree, 1999).

It was in this light that the question asked in the "SA Agri-Success 2000" survey was to stimulate the respondents to think about success and not merely survival. The audience targeted in this e-survey was not a single specialised group like Loree's, but a wider group comprising of two agricultural list-serves and 95 persons involved in agriculture in one way or another with whom the author had networked.

### 2. METHODOLOGY

The e-survey was set up using Pegasus Mail, version 3.1 for Win32, Copyright ©1992-99. The target population of the e-survey was: all agriculturalists, and was thus posted on two agriculture-related list-serves and sent to numerous individuals involved in agriculture. E-mail responses were copied to a Microsoft Excel file in which the data was analysed.

#### 2.1 Components of an e-mail message

One of the challenges of constructing a survey in e-mail format (and for that matter, an SMS cellular phone survey as well) is that you do not have rich text facilities such as using bold, italic, underline and colour. What also might seem attractive using one e-mail package might not come out on the recipients' package looking the same. For this reason one has to keep the format as simple as possible.

In keeping to e-ethics, the distribution list had to be written such that the individual addresses do not appear in the "send to" section of the message. This is done by creating a distribution list or list-serve. In this e-survey a distribution list was used, as it is the simplest option.

People are often inundated with junk-“e”-mail or “spam” using computer jargon, so the second challenge is to have a title in the subject line that will interest the recipient enough to actually read the message. The message then has to be formulated in such a way to keep the readers' attention. There is, however, also a lot of background information that has to be mentioned in any survey. This must be done as short and as concise as possible. Because the initial e-mail message viewing window is small, as much useful and

interesting information as possible should appear, once opened, so as to keep the readers' attention.

Because there are minimal costs attached to conducting an e-mail survey, it is best to ask the minimal amount of questions per e-mail. A last question should be whether the participant would like to participate in similar surveys in the future or not. The respondents that respond positively to this last question can be approached later for more thorough questioning. In this way a good list of future participants is also accumulated for any new survey.

The requirements of a good survey are, however, violated, such as for instance, random and representative participants within a target group. There is also obvious bias against those in an identified target group who do not have access to e-mail. Nor is the number of responses by no means statistically significant, nor representative, but keep in mind that the aim of this paper is not to analyse the responses, but to test a new methodology within a totally different operating environment.

## 2.2 The format of the actual survey e-mailed

In trying to stick to the above guidelines, below is the English format of the e-mail sent out, as it would appear to its recipient:

From: "Mr RJ Armour" <armourrj@landbou.uovs.ac.za>  
 Organisation: UOFS  
 To: "SA AgSuccess2000 survey list" <armourrj@landbou.uovs.ac.za>  
 Date sent: Wed, 15 Sep 1999 09:55:31 GMT  
 Subject: SA Ag Success 2000  
 Send reply to: armourrj@landbou.uovs.ac.za  
 Priority: normal

(Afrikaans volg hierna)  
 e-survey / discussion topic:

## WHAT DO SOUTH AFRICAN FARMERS NEED TO DO TO SURVIVE, AND BETTER YET; PROSPER, IN THE NEW MILLENNIUM?

At the International Farm Management Association (IFMA) Congress held in Durban 18-24 July 1999 a paper was presented with the title "What do North American farmers need to do to survive?" This paper was based on an e-mail survey, an approach that the Department of Agricultural Economics at the

University of the Orange Free State would like to test on all role-players in South African agriculture.

At the end of this survey, cut off date 10 October 1999, each respondent will receive an e-mail of survey results, a comparison of these results with the results from the Canadian farmer survey and a synopsis of the IFMA conference. This should provide some stimulation and direction for all respondents' future planning into the new millennium!

It is expected that the audience that this survey will reach will not be representative of the typical farmer in South Africa. It will however be interesting to see what kind of mix of academic, agri-business, farmer, government, etc, responses we will get. A comparison of the results from each sector should also prove interesting.

It is requested that all responses be sent to: [armourrj@landbou.uovs.ac.za](mailto:armourrj@landbou.uovs.ac.za) so as not to bog down the list-serve or discussion list on which it was posted and also not to influence other respondents' opinions.

Answer the question above as briefly or comprehensively as you like and return to [armourrj@landbou.uovs.ac.za](mailto:armourrj@landbou.uovs.ac.za) by 10 October 1999 together with the following details:

State the agricultural sector in which you best fit: (farmer, agri-business, academic/research, government) .....

If FARMER state farm size: .....(ha) and type: .....

If AGRI-BUSINESS state type: (input supplier, processor, marketer, consultant, etc.) .....

If ACADEMIC/RESEARCH state field: .....

If GOVERNMENT state department: .....

Would you be interested in participating further in similar e-surveys?  
 (Yes/No) .....

YOUR RESPONSE ADDRESS WILL NOT BE ADDED TO ANY MAILING  
 LIST NOR DISTRIBUTED NOR SOLD.

Please feel free to forward this e-mail to any farmers / agricultural role-players you might know.

Thanking you in advance for your co-operation

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<http://www.uovs.ac.za/agric/centre>

### 2.3 Profile of the survey list

Because of the relative ease of getting a list of e-mail addresses, a certain code of ethics needs to be followed to add value to results and ensure future participation (Shea, 1994). In keeping to a code of e-ethics, no direct e-mails were sent to addresses that the author didn't either know, or to whom business cards were volunteered. The e-survey was also placed on two list-serves (grouping of addresses), one being all the e-mail users in the Agricultural Faculty at the University of the Orange Free State (UOFS). The other list-serve was the "Landbou Forum" discussion group of which the author is a member and frequently participates. If conducting an e-survey on a list-serve to which one does not belong, and maybe even a good policy if one does belong, permission from the owner/manager of that list-serve should first be sought. Permission was not sought for this e-survey.

The advantage of using the "Landbou Forum" discussion group was that everyone that is signed on to the discussion list is connected to agriculture in one way or another. The majority of the other recipients to which the e-survey was e-mailed directly, were IFMA delegates and attendees at the SABI (South

African Irrigation Institute) conference from whom the author had received business cards.

It was also stated in the e-survey that participants are encouraged to forward the e-survey onto colleagues and others who would possibly be interested.

### 2.4 Other means of conducting electronic surveys

The survey could have been set up on a web page with all the editing and graphics, and e-mail only used to refer the target audience to the web page, but it is the authors' opinion that most recipients wouldn't access the web-site and thus not reply. Besides the time taken doing it oneself or the costs of employing a professional web-page designer to set up the page, the respondent would also have to pay to download the web-site, and also waste time waiting for it to download. An advantage of placing the survey on a web-site is that software does exist that automatically collects and analyses the data received. Two packages that can be used for this purpose are: NetCasters' e-survey package ([http://www.netcasters.com/solutions\\_esurvey.html](http://www.netcasters.com/solutions_esurvey.html)), and the PinPoint E-Surveys package ([http://www.logo.com/pinpoint/pinpoint\\_range/what\\_is\\_esurveys/index.html](http://www.logo.com/pinpoint/pinpoint_range/what_is_esurveys/index.html)). Both these packages are, however, costly.

Another option suggested by Dr Philip Theunissen (2000) is the use of SMS's on cellular phones for conducting an electronic survey. Many more farmers have cell-phones than e-mail access and a farmer with a cell-phone can immediately be reached. As the length of an SMS message is restricting, once a farmer's interest in participating in the survey is verified, a series of short questions can be sent to which the farmer only has to reply yes or no. Currently, cellular service providers offer the first 14 SMS messages per month free, thereafter a more expensive charge rate will apply than e-mail via landline. For the person conducting the survey, SMS messages can be managed via the web (for example see: <http://www.unimobile.com/>) where one message can automatically be sent to a whole list of cell-phone numbers.

WAP (Wireless Application Protocol, see: <http://www.wap.com/>) is also a new development that will possibly lend itself to electronic surveys in the near future.

## 3. RESULTS

Ninety-five e-mails were sent to individuals and the survey was placed on two discussion lists/list-serves as described in the profile of the survey list.

The response rate of the e-survey is shown in Table 1. The complete results of the survey can be obtained from the author.

Table 1: Response rate of the "SA Agri-Success 2000" e-survey

|  |            |
|--|------------|
| 95 e-mails sent to individuals                   | % of total |
| 2 e-mails sent to list-serves                    |            |
| 16 Replies from individuals = 16.8%              | 48%        |
| 5 Out of 282 on UOFS Ag. List-serve = 1.8%       | 15%        |
| 7 Replies through the "Landbou Forum" list-serve | 21%        |
| 5 Replies from forwarded e-survey                | 15%        |
| <b>33 TOTAL</b>                                  |            |

Fifty percent (17) of the replies were from individual e-mails. Only 5 (15%) replies were received from the UOFS Agricultural faculty list, which contained 282 addresses. It is unknown to the author how many addresses the e-survey was posted to on the "Landbou Forum" list-serve. There were only 7 (21%) responses. Only 5 (15%) of the respondents were not directly e-mailed by the author. It was hoped that the e-survey would be interesting enough to be forwarded on and, in doing so, expand the reach of the survey.

Being posted on an Afrikaans discussion list ("Landbou Forum") the survey had to be translated into Afrikaans. For brevity improper grammar was used. Some spelling mistakes were also overlooked. This created a poor impression to one respondent and could be the reason why more didn't answer, doubting the authenticity of the survey. The lesson learnt is that the same care should be taken in preparing an e-survey grammatically than would be done in any normal survey.

In the e-survey participants were encouraged to forward the e-survey onto colleagues and other interested persons. Only five of the survey respondents were not directly e-mailed by the author. This could indicate that the survey was not interesting enough for readers to want to forward, or instructions were too elaborate and readers never got to that section of the instructions.

It was clearly stated in the e-survey that responses by members on list-serves must not be posted on the list-serves, but sent directly to the sender. Ignoring the instructions, two responses were placed on the list-serve making a mockery of the survey. This could also have influenced other list-serve members not to participate. The lesson here is that, when targeting list-serves,

one must beware of survey 'piracy' which might well influence the results and credibility of your survey.

Shown in Table 2, only 68% (23) of the 34 respondents replied to question 1. These respondents were sent follow-up e-mails requesting them to answer question 1, to whom only four replied. It is, therefore, concluded that question 1 was stated unclearly. This, the main question of the survey should also not have been separated from the other questions. This is possibly what led to the misunderstanding.

Table 2: Summary of the "SA Agri-Success 2000" e-survey results

| Total survey respondents |    | 34                    |                   |           |            |
|--------------------------|----|-----------------------|-------------------|-----------|------------|
| Gender                   |    | Male                  | 71%               | Female    | 24%        |
| Language                 |    | English               | 29%               | Afrikaans | 71%        |
| Question                 | 1. | Question 1 answered   | Yes               | 23        | No         |
|                          |    | Focus                 | Survival          | 7         | Success    |
|                          |    | Type of answer        | General           | 18        | Specialist |
|                          | 2. | Sector                | Academic/research | 0         | 27%        |
|                          |    |                       | Farmer            | 0         | 18%        |
|                          |    |                       | Consultant        | 0         | 7%         |
|                          |    |                       | Bank              | 0         | 0%         |
|                          |    |                       | Agribusiness      | 0         | 33%        |
|                          |    |                       | Government        | 0         | 16%        |
|                          | 3. | Further participation | Yes               | 29        | No         |
|                          |    |                       |                   | 0         | ?          |
|                          |    |                       |                   | 5         | 0          |

### 3.1 Profile of the respondents

Table 2 summarises the profile of the respondents to the survey. Contrary to what was expected, a very poor response of only 34 replies was obtained. Only 23 of these replies answered the main survey question. The majority of the respondents were male (71%) and Afrikaans (71%). Although more than 50% of the responses were from academic/research and agribusiness institutions the nature of most of the responses were general and not field specific. Only eight farmers responded with a combined hectareage of 3800 ha between them. Interestingly, no bank employers responded, and all the respondents who actually filled in the questions, agreed to participate in further e-surveys.

### 3.2 Answer to the survey question

Regarding the question: "What do South African farmers need to do to survive, and better yet: prosper, in the new millennium?" the following quotation sums up the general response by the survey respondents:

"Success for today's agriculturalist will be determined by his ability to think creatively and innovatively, and to come up with new ideas. So says Gerrit van Rensburg, Western Cape minister of agriculture.

"The European Union agreement is both a good example and, at the same time, a warning to South African agriculturalists. The agreement sends a very clear message to local producers that commodity products will remain under pressure, but that real opportunities can be found in high-value and niche products.

"The agriculturalists who find their place in the sun on the international markets will be those who can read the signs of the times, not those who still farm as their parents did before them" (Sanlam Agri-Economic News, 2000).

#### 4. CONCLUSION

As far as the author knows, not many academic surveys have been conducted via electronic media to date. The *SA Agri-Success 2000* e-survey was, therefore, a trial exercise to test the applicability of the use of e-mail to conduct surveys. Internet use is proceeding at an exponential rate (among farmers as well), and once a methodology is perfected to make use of this electronic medium to conduct surveys, considerable research costs and time can be saved. This paper thus serves as stimulation for further use of the Internet and cellular phone technology for conducting surveys as well as for relating some practical guidelines and mistakes to be avoided.

A poor response to the e-survey could be due to numerous errors made in conducting the survey, the newness to the target group of such a survey and the lack of interest in the topic.

To quote Mr Loree (1999) again: "Success will be dependent on being ahead of the forces changing the structure of the industry, on effective economic and investment analysis, on human resource issues, and greater relational issues outside the farm". The first point is particularly applicable not only to farming, but to efficient data accumulation in this new information era in which we find ourselves today.

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