**NZQA**

**Approved**

Achievement standard: 91266 Version 2

Standard title: Evaluate a statistically based report

Level: 2

Credits: 2

Resource title: Better connected – greater use

Resource reference: Mathematics and Statistics VP-2.11 v2

Vocational pathway: Primary Industries

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| Quality assurance status | These materials have been quality assured by NZQA. NZQA Approved number A-A-02-2015-91266-02-8198 |
| Authenticity of evidence | Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material.Using this assessment resource without modification may mean that learners’ work is not authentic. Assessors/ educators may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

Vocational Pathway Assessment Resource

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Learner instructions

# Introduction

This assessment activity requires you to evaluate a statistically based report about internet use.

You are going to be assessed on how you demonstrate statistical insight by integrating statistical and contextual information in the report evaluation process.

The following instructions provide you with a way to structure your work to demonstrate what you have learnt to allow you to achieve success in this standard.

Assessor/educator note: It is expected that the assessor/educator will read the learner instructions and modify them if necessary to suit their learners.

# Task

There are many new online services being developed for the primary industries that are specifically designed to improve productivity and provide information. Therefore improved access and use of the internet is becoming an increased priority for the future development of the industry. Erina is a farm consultant for the farm consultancy firm Mahi ahu Whenua Inc. She wants her clients to succeed and thinks that providing her clients with a report about internet use would help to convince them that using more online services would be an effective way to help increase their productivity.

Working independently, read and analyse *The Internet in New Zealand 2011,* a report about internet use produced by the Institute of Culture, Discourse and Communication, AUT University. The executive summary is provided in Resource A and the full report can be found at <http://www.aut.ac.nz/__data/assets/pdf_file/0005/252077/WorldInternetProjectNZ_2011final.pdf>.

The format of your evaluation should be agreed between yourself and your assessor/educator.

You need to write down the following:

* the source of the report
* a short (one paragraph) summary of the report
* the purpose of the report
* the advice Erina should give her farm clients.

Identify and comment on features of the survey relevant to the purpose of the report:

* population measures and variables
* sampling methods
* survey methods
* sampling and possible non-sampling errors
* sample size.

You also need to evaluate the findings of the survey.

Make an overall evaluation of the effectiveness of *The Internet in New Zealand 2011* report, with respect to its purpose.

Justify your statements with supporting evidence.

Make clear links to the context, including reference to relevant background information.

You may use the focus questions in Resource B as a guide.

The quality of your evaluation, including your discussion and reasoning and how well you link this to the context of the report, will determine your grade.

# Resource A

*The Internet in New Zealand 2011* – Executive Summary

The third World Internet Project New Zealand survey was conducted in July–August 2011. The sample of 1255 New Zealanders were asked about their usage of and attitudes to the internet. The latest findings are compared with the 2007 and 2009 surveys and the significant trends presented.

Use of the internet in New Zealand has continued to rise, reaching 86% in 2011, up from 79% in 2007 and 83% in 2009. The remnant of the digital divide persists, with most of those still not online aged over 60 or in a low-income household, or both.

Broadband has also continued to spread. With 91% of users on broadband in 2011, the trajectory from 67% in 2007 to 84% in 2009 has continued but eased as it approaches saturation, bringing New Zealand close to other comparable countries on an important measure where it once lagged. The divide as focused in broadband access has reduced in the past four years. Older New Zealanders are now catching up with younger and rural residents with urban.

Usage of smartphones and other handheld wireless devices has grown apace, from 7% of internet users in the 2007 sample, to 18% in 2009 and 27% in 2011. This is clearly a strong trend that will continue into the future.

A majority of internet usage has now shifted out of the back rooms of the home and into the open, communal spaces. 54% of internet users now go online mostly from a communal space in their home, up by half on the 36% of 2007. Using the internet in communal spaces is a sign of growing internet mobility through wireless access and of the increasing embeddedness of the internet in everyday home life. More and more New Zealanders (58%) also affirm the overall importance of the internet to their daily lives, with younger, more wealthy and urban dwellers leading.

The same demographic pattern holds for the internet as a source of information. An increasing majority of New Zealanders rate the internet as important for information (69% in 2011, up from 62% in 2007), while newspapers are losing influence. Over 40% of internet users in New Zealand now look online for news every day, up from 33% in 2007. Over 20% check facts online daily, and over 10% look for word definitions every day. Nearly 60% of internet users surf the web every day, and about half access or download music or videos at least occasionally. People are becoming less sceptical about the reliability of information on the internet. For New Zealanders aged 30-59, the drop in scepticism is significant, down from 18% in 2007 to 6% in 2011.

Social network site membership is up by a third since 2009 to 64% of internet users, almost all on Facebook. SNS membership is highly stratified by age, attracting 87% of under-30s but only 34% of over-60s, although over-30s are providing continued growth. Higher household income and urban residence also promote SNS use. Over a quarter of internet users have made new friends online, and half of those have gone on to meet them in person.

Online phone calling (through Skype, for example) has nearly doubled since 2007, with 42% of users now making or receiving calls online. Texting remains the preferred medium of communication for younger people (79% at least weekly), somewhat at the expense of phone calls (65% doing this weekly). More and more older people are coming on to email (46% emailing at least weekly) as younger people move away from it (54% in 2007, now 40% emailing weekly).

The use of the internet for business transactions has grown markedly, especially for paying bills (65% of users) and banking (73%). Paying public charges such as taxes and licences has nearly doubled to 38% since 2007.

Concern about internet security for children continues to increase, with rises in the proportion of households that set rules for their under-18s, for example about not chatting with strangers.

Source:

Smith, P., Gibson, A., Crothers, C., Billot, J., Bell, A. (2011), *The Internet in New Zealand 2011*, Auckland, New Zealand, Institute of Culture, Discourse & Communication, AUT University.

# Resource B

## Focus questions

Focus questions to help guide your evaluation of the report:

* What data is displayed in the report?
* What type of data is it, categorical or numerical?
* How is the data displayed in the report?
* Are the displays or measures included appropriate for the type of data?
* What summary statistics are used in the report?
* How accurate is the data?
* Where does the data quoted or used in the report come from?
* What survey questions were asked?
* Were the survey questions appropriate?
* Could the survey questions be misinterpreted or not give the data needed?
* What were the variables of interest?
* How were the variables of interest measured?
* Do the comments (descriptions) made in the report reflect accurately the data given?
* Are any comments misleading or biased?
* Could alternative analyses be made?
* Could the data have been interpreted in another way?
* What important data or information is not present?
* What questions is the report answering (what is/are the investigative question/s)?
* Who is the report intended to be about (who is the intended population)?
* Who is the report aimed at (who might be interested in the outcomes)?
* What is the purpose of the report?
* What further information is needed?
* Are there any underlying or lurking variables that may have an impact on the outcome?
* Are the claims made in the statistically based reports valid and/or sensible?
* What should Erina say about the value of online services?

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Assessor/Educator guidelines

# Introduction

The following guidelines are supplied to enable assessors/educators to carry out valid and consistent assessment using this internal assessment resource.

As with all assessment resources, education providers will need to follow their own quality control processes. Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material. Using this assessment resource without modification may mean that learners' work is not authentic. The assessor/educator may need to change figures, measurements or data sources or set a different context or topic. Assessors/educators need to consider the local context in which learning is taking place and its relevance for learners.

Assessors/educators need to be very familiar with the outcome being assessed by the achievement standard. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the standard and assessing learners against it.

# Context/setting

This activity requires learners to evaluate a statistically based report about the use of the internet, in order to give advice to clients of a farm consultancy.

# Conditions

Learners need to work independently to complete this activity.

You need to review learners' work in progress before the final due date.

Confirm the format of the evaluation with learners.

The evaluation could be, but is not restricted to, a slideshow, a written report, a wiki page, or an oral presentation.

# Resource requirements

Learners are expected to have access to appropriate technology.

The assessor/educator will provide learners with copies of Resource A (the report Executive Summary) and Resource B (a list of focus questions), or another appropriate framework for evaluating reports. Learners also require access to the original report.

Make sure that learners have access to background information about the context, for example newspaper articles or internet access.

# Additional information

None.

# Assessment schedule: Mathematics and Statistics 91266 – Better connected – greater use

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| Evidence/Judgements for Achievement | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The learner evaluates a statistically based report by:* identifying the purpose of the report
* identifying and commenting on features of the survey relevant to its purpose

For example the learner:* + identifies the type of survey method and comments on the response rate
	+ identifies and comments on the sampling method
	+ identifies how the survey results are presented and comments on how effective the results are in providing information.
* identifying and commenting on findings of the survey relevant to its purpose

For example the learner:* + identifies the stated conclusion of the report and makes a relevant comment on how accurate it is.

*The examples above are indicative of the evidence that is required.* | The learner evaluates a statistically based report, with justification by:* supporting comments on the features with reference to statistical evidence and the statistical processes used
* identifying the purpose of the report

For example the learner:* + identifies the type of survey method and comments on the response rate with specific reference to the data provided in the report
	+ comments on the effectiveness of an aspect of the survey method with respect to the purpose of the survey
	+ identifies and discusses the sampling method with reference to a practical aspect of obtaining relevant data that is required to meet the purpose of the survey
	+ identifies how the survey results are presented and comments on how effective this is in terms of providing information
	+ makes specific reference to examples in the report that link summary comments with data presentation.
* supporting comments on findings with reference to statistical evidence and statistical processes used

For example the learner:* + identifies the report’s stated conclusion and makes relevant comments on how accurate it is
	+ supports comments with specific references to displays or summary comments in the report.

*The examples above are indicative of the evidence that is required.* | The learner evaluates a statistically based report, with statistical insight by:* integrating statistical and contextual information to assess the quality of the report in terms of its purpose

For example the learner:* + identifies the purpose of the survey and type of survey method, and comments on the response rate, with specific reference to the data provided in the report
	+ identifies any limitations of the response rate, if there are any, and the impact of these on the findings is discussed
	+ discusses the effectiveness of an aspect of the survey method and how the aspect could be improved
	+ identifies and discusses the sampling method, with reference to practical aspects of obtaining relevant data that is required to meet the purpose of the survey
	+ identifies potential sources of bias and suggests how these could be avoided
	+ identifies how the results of the survey are presented and comments on how effective this is in terms of providing information
	+ specifically refers to examples in the report that link summary comments with data presentations, identifies any inconsistencies between these, and suggests improved approaches
	+ identifies questions that are potentially ‘leading’ and suggests improvements
	+ considers improved presentation techniques
	+ identifies the report’s stated conclusion and makes a relevant comment on how accurate it is
	+ refers to examples that support and examples that do not clearly support the conclusion
	+ links discussion about question structures and data presentations to the conclusion, and considers limitations and possible improvements.

*The examples above are indicative of the evidence that is required.* |

Final grades will be decided using professional judgement based on an examination of the evidence provided against the criteria in the Achievement Standard. Judgements should be holistic, rather than based on a checklist approach.