

A Pilot Study of a Methodology for Graduate Outcome Survey

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ABSTRACT

Accurate detailed information of the employment outcomes of graduating students from Business Computing courses had not been previously collected. This project will survey graduates about their employment outcomes. As well as collecting summary information about the number of students in employment this project aims to provide more detailed information about the nature of this employment, the level of their initial roles and the factors affecting their career success. The project also aims to produce a model that could be used to repeat the survey at a later time or nationally or to apply a similar survey to graduates from other regions and fields.

To date a questionnaire has been compiled and trialed on a pilot group of ex-students. Data from these completed questionnaires have been entered into an access database. Analysis has been attempted from the pilot group to determine if the required information has been collected.

1. INTRODUCTION

Business Computing courses attempt to provide knowledge and training relevant to industry. One measure of success of these courses is that students are able to get employment. Students are also concerned that the skills taught on the course will enable them to progress in a career in Information Technology. There are a large number of variables affecting the student's employment outcomes. These can include the student's performance on the course, their prior commercial experience, the student's maturity and age at completion, their attitudes and willingness to participate in further learning. Graduates may find employment in a wide variety of different industry sectors and in various different roles. In addition students may enter the course with the intention of using the knowledge from the course to establish a retail or contract business.

Students who have recently completed the courses and are now in employment can provide valuable information to help us tailor the courses to better meet industry needs. These students are able to assess which of the skills covered in the courses are relevant to them in their job and may have further ideas on what should be included in the courses.

This research aims to identify which skills and knowledge taught are most valued by these students. In addition the project attempts to analyse the factors leading to career success for computing students. Salary is used as a quantifiable measure of success. The factors that are considered as having a possible affect on success are; prior employment, the qualifications completed, age when qualifications were completed, number of years employment in the industry, the region in which the student is employed and the industry sector in which the student is employed.



2. THE QUESTIONNAIRE

The questionnaire is separated into four sections. Section one covers the qualifications, both those started and those completed by the student. Section two asks for the student's employment record, both before and after completing the qualifications. Section three asks the student to comment on the skills included in the Business Computing courses and section four contains identification information. As information on salary is private, care is taken in the survey to keep this information confidential. The forms are designed so that the name can be detached before data entry and the name will be kept in a separate database so that identifying information can not be seen during data entry. Participants are asked to sign a consent, allowing their information to be used to produce summary statistics. A copy of the full questionnaire is included as Appendix 1.

3. THE PILOT STUDY

The questionnaire was sent to a small group of graduates working in the Rotorua region. The purpose of this pilot study was to test the effectiveness of the questionnaire. To determine if the questions are worded clearly enough, to check if the questions provide the required information and whether the information provided could be analysed as required.

Several points emerged during processing of the pilot group indicating changes that should be made before the full survey is completed. The following points were noted.

1. Participants were confused by the layout of the qualifications page. Incomplete qualifications will be reported more accurately if this is placed after the completed qualifications and clearly labelled as "Incomplete Qualifications".
2. The year of completion should be included with the Business Computing qualification entries.
3. A year started column should be included in all the qualification entry rows.
4. In the pages for each position participants were confused by (City or Region). These would be clearer if separated and examples given.
5. The age at completion of study needs to be moved from the identification page – so that it can be entered with the bulk of the information.
6. The survey does not allow for a response from a student who has not obtained employment.
7. Salaries reported all fall within a small section of the ranges used. To get data that can be analysed statistically smaller salary ranges will need to be used.

The survey received a good response from participants and appears to have been easily completed.

4. THE DATABASE

A database has been constructed to facilitate data entry and analysis. The intention is that the data will be able to be stored electronically and all the reports can be automated. The database should be generic enough to allow this same database to be used to analyse similar sets of data for other student groups.

Figure 1. Example entry form - Completed qualifications.

qualID	providedID	Year completed	highest y/h
NDRC	Wairaki	1997	
		0	
		0	

Figure 1.
Example entry form –
Completed qualifications.

Lists of skills, industry sectors and qualifications are all included as tables in the database. Allowing these items to be modified easily for different surveys. This initial survey should establish the most useful format for this database.

Data entry has been facilitated by the construction of data entry forms matching the layout of the questionnaire where possible.

The data entry forms are as follows:

1. Entry of name and address information. This data is kept in a separate database. This identifies individuals and links them to their survey id number.
2. Entry of completed qualification information.
3. Entry of incomplete qualification information.
4. Entry of information related to each position, including title, job tasks and salary.
5. Entry of information about the importance of skills included in the Business Computing courses.

The database entry forms will be further refined to match changes in the questionnaire and to facilitate data entry.

5. THE ANALYSIS

Automated reports have been constructed to analyse the results of the survey.

To date the following reports have been constructed using data from the pilot study.

1. Counts of key tasks identified as part of their positions by respondents
2. Pie chart showing percentage of employment types reported
3. Pie chart showing percentage of industry sectors in which respondents obtained positions
4. Pie chart showing the distribution of salary ranges reported
5. Chart of average salary reported by years since last qualification completed
6. Chart of average salary compared to the highest qualification reported
7. Combination chart showing average salary compared to both highest qualification reported and year since completion.
8. Counts of numbers of respondents indicating skills as important for getting their first position
9. Counts of numbers of respondents indicating skills as important for their on-going work.
10. Counts of different job titles reported.

Other reports that could be constructed include; a chart comparing salary to the number of years of employment before starting qualifications, a chart comparing salary to the region in which they are employed, a chart comparing salary with age, a chart comparing the length of time before getting a position with the qualifications completed.

The size of the pilot study does not allow for any conclusions to be made and no inferences should be taken from the information in the charts drawn. When the full study is completed statistical analysis will be used to determine the relevant importance of the different factors on student success.

Example reports.

Figure 2. Distribution of salary ranges reported in pilot study.

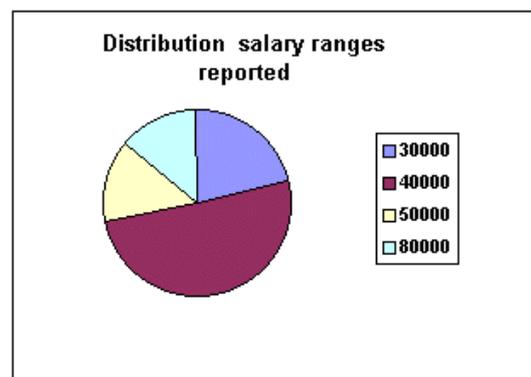


Figure 2. Pie chart showing distribution of salary range reported.

Figure 3. Counts of skills listed as important for Employment.

Number identifying skills as important for work positions

Skill	Skill Description	Number indicating this skill important
A	Writing Skills	2
B	Interpersonal Skills	3
C	Hardware and Network expertise	3
D	Operating systems experience	4
E	Software applications expertise	4
F	Software development	2
G	Systems Analysis	2
H	Network management	3
I	Databases	3
J	Business systems	2
K	Accounting knowledge	3
L	Project management	2
M	Person Contacts	3
N	Help Desk	3

Figure 3. Counts of skills listed as important for employment.

Figure 4. Average salary. Differentiated by last qualification completed and year of completion.

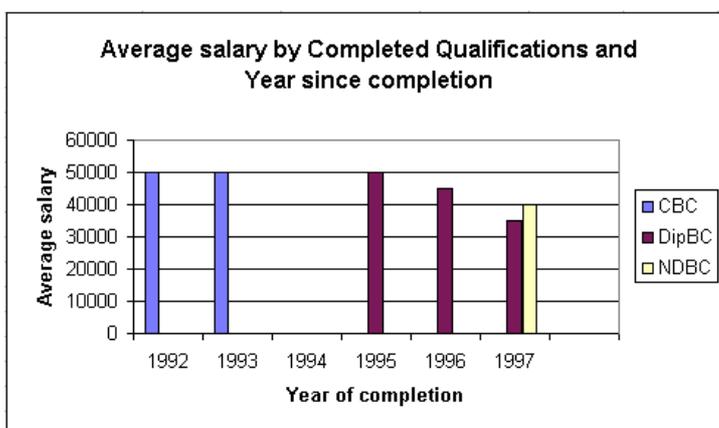


Figure 4. Average salary reported. Differentiated by last qualification and last year of study.

Figure 5. Counts of key tasks listed as a part of the employment of graduates.

Key tasks listed

<i>Task ID</i>	<i>Task Description</i>	<i>Number of times listed as key tasks</i>
5	Application support	13
6	User support	11
2	Hardware technician	10
9	Software maintenance	9
7	Training	9
1	Data Control	9
10	Database development /adminis	7
4	Network administration	7
12	Project management	5
8	Software Development	5
11	System analysis design	4
14	Office administration	2
3	Pc sales and service	1

Figure 5. Counts of key tasks listed as a part of the employment of graduates.

6. CONCLUSION

This survey when completed could be of interest to others within NACCQ. The presentation of this pilot study gives those interested the opportunity to comment and offer suggestions on additions or improvements to the design of the survey and to analysis options.

APPENDIX THE QUESTIONNAIRE

SECTION ONE

QUALIFICATION HISTORY

1. What was your last year of study at Waiariki?
Year _____
2. What was the highest level qualification that you started at Waiariki?

(please tick the selected item)

- Introductory Certificate in Computing (ICC)
- National Certificate in Computing Level 2 (NCC 2)
- National Certificate in Computing Level 3 (NCC 3)
- Certificate in Business Computing (CBC)
- Diploma in Business Computing(DipBC) or ACBC
- National Diploma in Business Computing (NDBC)

3. What was the highest level qualification that you completed at Waiariki?

- Introductory Certificate in Computing (ICC)
- National Certificate in Computing Level 2 (NCC 2)
- National Certificate in Computing Level 3 (NCC 3)
- Certificate in Business Computing (CBC)
- Diploma in Business Computing(DipBC) or ACBC
- National Diploma in Business Computing (NDBC)

4. Have you started any further tertiary study since then?

- YES
- NO

Qualification started	Completed(yes/no)	Year
			completed

6. Have you started any further professional qualifications since then?

Examples might be CNE, CNA, MOUS, MCSE

- YES
- NO

7. If you answered yes to question 6 please specify each course of study below.

Qualification started	Completed(yes/no)	Year
			completed

8. Have you started any courses offered on the Internet?

- YES
- NO

9. If you answered yes (to question 8) please specify below.

Course started	Leads to qualification (please specify)
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Completed(yes/no)
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SECTION TWO

EMPLOYMENT HISTORY

10. Please outline briefly your employment history before you commenced your Business Computing study with Waiariki.

Year(s)	Position held
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11. Total years work experience before commencing study _____

EMPLOYMENT SINCE COMPLETING YOUR STUDY AT WAIARIKI

The following section asks several questions about positions you have held since completing your study at Waiariki. For this section please select (up to) 3 significant positions you have held since completing your study at Waiariki.

NOTE: Different positions could be within the same company if your role changed significantly.

POSITION 1

JOB TITLE

YEAR STARTED

HELD FOR –(Number of MONTHS)

TYPE OF EMPLOYMENT (tick as appropriate)

Employee

Contractor

Self employed

LOCATION (please specify)

(City or Region)

(Country)

KEY TASKS (tick as appropriate)

Data control

Hardware technician

PC sales and service

Network administration

Application support

User support

Training

Software development

Software maintenance

Database development or administration

System analysis and/or design

Project management

Retail

Office administration

Secretarial

INDUSTRY SECTOR (tick as appropriate)

Central or local government

Forestry

Manufacturing

Retail or wholesaling

Computer retail or IT support company

Transport

Tourism, travel or accommodation

Banking and Finance

Education

Health or social services

Other – please specify

SALARY RANGE (please tick as appropriate)

- Less than 20,000
- Greater than 20,000 but less than 30,000
- Greater than 30,000 but less than 40,000
- Greater than 40,000 but less than 50,000
- Greater than 50,000 but less than 60,000
- Greater than 60,000 but less than 70,000
- Greater than 70,000 but less than 80,000
- Greater than 80,000 but less than 90,000
- Greater than 90,000

SECTION THREE

RELEVANCE OF BUSINESS COMPUTING COURSES

12. In gaining your first industry or business position after completing your study at Waiariki do you consider that the Business Computing course helped you to gain this position?

- YES
- NO

13. If NO (to question 12) please explain.

14. If your answer to question 12 was YES please tick any items from the list below that you feel were important to help you obtain your first industry position.

Course aspects: TICK if important

- A Writing skills
- B Interpersonal skills
- C Experience with hardware and networks
- D Experience with Operating systems
- E Experience with Software applications
- F Software development knowledge and experience
- G Systems analysis and development knowledge
- H Network management knowledge
- I Database topics
- J Business systems knowledge
- K Accounting knowledge
- L Project experience
- M Personal contacts acquired during the course
- N Help desk experience
- O Other

If you chose O (other) please explain:

15. What aspects of the course do you consider have been most helpful to allow you to complete the tasks required DURING your employment.

Course aspects: TICK if important

- A Writing skills
- B Interpersonal skills
- C Experience with hardware and networks
- D Experience with Operating systems
- E Experience with Software applications
- F Software development knowledge and experience
- G Systems analysis and development knowledge
- H Network management knowledge
- I Database topics
- J Business systems knowledge
- K Accounting knowledge
- L Project experience
- M Personal contacts acquired during the course
- N Help desk experience
- O Other

If you chose O (other) please explain:

16. We would like to hear any recommendations you might have for changes to the Business Computing courses in the light of your employment experience. Suggestions for changes:

SECTION FOUR

PERSONAL INFORMATION

17. What age were you when you completed study at Waiariki

- Less than 20
- 20 or greater – less than 30
- 30 or greater – less than 40
- 40 or greater - less than 50
- 50 or greater less than 60
- 60 or greater

18. Are you available for follow up if staff would like to contact you for more information about your comments.

- YES
- NO

19. Current address/ contact information: (Please note this page removed during survey analysis to ensure confidentiality of other information supplied).

Name:

Current phone number (day)

Current phone number (evening)

Email address:

Current postal address: