



Four Yearly Review of Modern Awards – Penalty Rates
AM2014/305 2015

Expert Opinion

Report to Fair Work Commission

By

Helen Bartley
Bartley Consulting Pty Ltd

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Contents

Contents 2
Context 3
My qualifications and experience 4
Review of Dr Pratley’s Report 5
Declaration 10
Annexures 11

Context

1. I have prepared this report in response to a Letter of Instruction dated 21 October 2015 from A.J. Macken & Co., who act on behalf of the Shop, Distributive and Allied Employees' Association (SDA) (Annexure A).
2. I have been engaged by the SDA to provide expert opinion in relation to a report prepared by Dr Pratley dated 21 August 2015 in which he provides opinion on the "reasonableness" of surveys of McDonald's licensees, McDonald's employees, and Hungry Jacks employees. I have reviewed Dr Pratley's report along with the letter of retainer to Dr Pratley from the AI Group, Dr Pratley's Affidavit dated 4 September 2015 and his Curriculum Vitae (Exhibit AP-1).
3. I acknowledge receipt of copies of the following reports pertaining to the surveys reviewed by Dr Pratley, and I have reviewed these to inform my response to the Letter of Instruction from A.J. Macken & Co.:
 - 3.1. In relation to the Fast Food Employee Survey:
 - 3.1.1. Affidavit of Patricia Ann Deasy affirmed on 10 August 2015
 - 3.1.2. Affidavit of Marek Kopias affirmed 10 August 2015
 - 3.1.3. Affidavit of Gina Feast affirmed 10 August 2015
 - 3.2. In relation to the Fast Food Franchisee Survey:
 - 3.2.1. Affidavit of Patricia Ann Deasy affirmed on 11 August 2015
 - 3.2.2. Affidavit of Marek Kopias affirmed 10 August 2015
4. I note that Dr Pratley's summary of AIG's requests of opinion is contained in paragraph 7 of his report. I also note that Dr Pratley has limited the expression of his opinion to assessing the "reasonableness" of the representativeness of the employee surveys of McDonald's and Hungry Jack's and of the franchisee survey of McDonald's franchisees (paragraph 5 of the Pratley Report).

My qualifications and experience

5. I have the following qualifications and experience that qualify me to provide expert opinion in relation to the Pratley Report (my full CV is enclosed in Annexure B).
 - 5.1. I have a Bachelor of Arts from the University of Melbourne, a Graduate Diploma of Applied Science (Social Statistics) from Swinburne University of Technology and a Master of Applied Science (Social Statistics) also from Swinburne University of Technology.
 - 5.2. Throughout my career I have participated in various professional development programs and conferences related to social and market research, run by organisations such as the Australian Consortium for Political and Social Research Incorporated, The Australian Market and Social Research Society, The Statistical Society of Australia, and the Australasian Evaluation Society to keep up to date with current issues in social and market research, including survey design and survey sampling.
 - 5.3. I have more than 25 years of experience in the design, conduct and management of quantitative market and social research, including, in particular, research design, data management and statistical analysis, survey sampling, and data collection methodologies.
 - 5.4. I also have more than 15 years experience as a sessional lecturer and subject convener at Swinburne University of Technology in postgraduate studies in Applied Statistics specialising in survey research practice. I have also lectured postgraduate students in survey sampling and statistical computing and have been an examiner of Masters Degree theses in applied statistics.
 - 5.5. I am a Qualified Practising Market Researcher (QPMR) with the Australian Market and Social Research Society (AMSRS), and have maintained my QPMR status since the scheme was established in 2003. I am currently serving as the Victorian Division Chair of the AMSRS and I am a member of the Victorian Independent Social Researchers' Group committee of the AMSRS. I am also an Accredited Statistician with the Statistical Society of Australia, and have maintained accreditation since 1999.
 - 5.6. I am currently a principal consultant of Bartley Consulting Pty Ltd, a consultancy which provides specialist market and social research, statistical and data analysis services to community, government and business organisations across a range of sectors, including:

primary production, water resource management, community health and housing, education, consumer affairs, housing, telecommunications, retail, business strategy, customer relationship management, environment and transport.

Review of Dr Pratley's Report

6. I have reviewed the Pratley Report, and the reports listed in Paragraph 3 above. Dr Pratley concludes, in relation to the three surveys, in paragraph 6 of his report that:

6.1. The employee survey of McDonald's is representative of McDonald's employees with regard to reasonableness

6.2. The employee survey of Hungry Jack's is representative of Hungry Jack's employees with regard to reasonableness

6.3. The franchisee survey of McDonald's is representative of McDonald's franchisees with regard to reasonableness

7. He further concludes in paragraph 7 that the employee survey of McDonald's and Hungry Jacks is representative of fast food industry employees with regard to reasonableness, "except in the circumstances where questions specifically relate to hours outside that of standard trade within the fast food industry". I have reviewed Dr Pratley's report as to the basis upon which he forms the above conclusions. The following paragraphs cover the aspects of his report where I have differing views.

Suitability of the data collection method

8. In paragraph 49, Dr Pratley states that, "The most commonly accepted method for data collection [from an organisation] is to use an online questionnaire platform". An online survey, in the context of the McDonald's and Hungry Jack's surveys, is a method whereby potential survey participants are emailed an invitation to participate in a survey, with a survey link embedded in the email. It is then up to the individual to choose whether they click on the link to the survey and complete the questions. Dr Pratley's statement is generally true, in that this method of data collection is commonly used to collect survey data from employees and organisations. However the reason that it is generally true is mainly because an online platform is usually the least expensive way of reaching members of an organisation, who are online. This does not mean that an online survey is methodologically the best method of ensuring that a *representative sample* is

achieved. In fact, as evidenced by the McDonald's and Hungry Jack's employee surveys, the response rates were only 20% and 6% respectively, which in my opinion are low to very low, resulting in significant potential for non-response bias (see paragraphs 15 and 16 of my report).

9. In paragraph 57, Dr Pratley states, "Small organisations are often hard to reach in industries." I dispute this claim. In my experience, it is usually easier to reach small organisations because they tend to be more clearly defined (e.g. they have one address, one contact number and are more likely to belong to a single industry compared to a large complex organisation). On this basis it is generally easier to identify and reach the appropriate individual to participate in a survey.

Understanding of cluster sampling

10. In paragraphs 60 and 61, Dr Pratley describes what he considers to be cluster sampling, possibly to explain why the samples of McDonald's and Hungry Jack's employees can be grouped together to form a "representative" sample of food industry employees. The approach he describes, and the approach used in the surveys is not cluster sampling, it is a non-probability sampling method that is sometimes called *convenience* sampling.
11. Cluster sampling is a two-stage (or multi-stage) probability sampling method, whereby the population is divided into naturally occurring groups, most commonly geographically based. The first sampling stage is to randomly select clusters. The second sampling stage involves either randomly sampling individuals within selected clusters or surveying all the members of the selected clusters.
12. I understand that neither the McDonald's nor Hungry Jack's organisations were selected by chance from a population of fast food franchise operators, using a cluster sampling, or any other probability sampling approach. It is not possible to draw any reliable conclusions about the population of all fast food industry employees from data obtained from surveys of two deliberately selected organisations.
13. Again in paragraph 100, Dr Pratley mentions the use of cluster sampling and he provides a referenced definition of "cluster sampling". I have not been unable to locate the reference cited by Dr Pratley, but I have undertaken an internet search for the cited definition (i.e. the two sentences in quotation marks that form part of paragraph 100 in Dr Pratley's Report) and found

the same quote in several alternative sources, in addition to the source used by Dr Pratley^{1 2}. What Dr Pratley fails to mention, and what is included in these references, and numerous other survey sampling texts, is that cluster sampling requires the clusters to be randomly selected. He also fails to mention that cluster sampling actually increases sampling error because individuals belonging to the same cluster (e.g. McDonald's employees belong to the "McDonald's cluster") are likely to be more alike than individuals selected at random from the target population as a whole.

The survey response/non-response rate

14. Dr Pratley's report does not mention the response rate to each survey. In each of the three surveys, the response rate was small to very small and could significantly affect the validity of any conclusions sought to be drawn about the populations of fast food industry employees from the responses received.
15. Marek Kopias' witness statement of 10 August 2015 (paragraph 10) indicates that 101,201 McDonald's employees had accessed the survey. Patricia Deasy's witness statement dated 10 August 2015 (paragraph 16) states that ultimately there remained 20,635 valid records from the response sample of McDonald's employees. Based on these figures, the response rate (defined as the number of valid records divided by the number of employees who had accessed the survey) to the McDonald's employee survey was only 20%.
16. Gina Feast's witness statement of 10 August 2015 (paragraph 16) indicates that 13,564 Hungry 's Jack's employees had accessed the survey. Patricia Deasy's witness statement dated 10 August 2015 (paragraph 16) states that ultimately there remained 944 valid records from the response sample of Hungry Jack's employees. Based on these figures, the response rate (defined as the

¹ Keller, G. (2015) *Statistics for Management and Economics Abbreviated*. Cengage Learning: Boston page 168

(https://books.google.com.au/books?id=JTp-BAAAQBAJ&pg=PA168&dq=%22Cluster+sampling+is+particularly+useful+when+it+is+difficult%22&hl=en&sa=X&ved=0CCYQ6AEwAmoVChMI0cDp3v_GyAIVRiumCh3wWQpg#v=onepage&q=%22Cluster%20sampling%20is%20particularly%20useful%20when%20it%20is%20difficult%22&f=false)

(https://books.google.com.au/books?id=RqsjyY542dYC&pg=PA19&lpg=PA19&dq=%22Cluster+sampling+is+particularly+useful+when+it+is+difficult%22&source=bl&ots=T4Ynj3du3X&sig=NeV9CtqIMjW4kgID_XYOJJSQXsE&hl=en&sa=X&ved=0CCCEQ6AEwAWoVChMlmbOR7_3GyAIVZyCmCh2_KwFe#v=onepage&q=%22Cluster%20sampling%20is%20particularly%20useful%20when%20it%20is%20difficult%22&f=false)

² Mousa, A.M. (2005) *Statistical Data Analysis*. Centre for Advancement of Postgraduate Studies and Research in Engineering – Cairo University, page 19

(https://books.google.com.au/books?id=RqsjyY542dYC&pg=PA19&lpg=PA19&dq=%22Cluster+sampling+is+particularly+useful+when+it+is+difficult%22&source=bl&ots=T4Ynj3du3X&sig=NeV9CtqIMjW4kgID_XYOJJSQXsE&hl=en&sa=X&ved=0CCCEQ6AEwAWoVChMlmbOR7_3GyAIVZyCmCh2_KwFe#v=onepage&q=%22Cluster%20sampling%20is%20particularly%20useful%20when%20it%20is%20difficult%22&f=false)

number of valid records divided by the number of employees who had accessed the survey) to the Hungry Jack's employee survey was only 6%. This is a very low response rate.

Sample size assumptions

17. In paragraph 108, Dr Pratley claims that, "Larger samples are more representative of the population." This statement is not always true. For example survey of a random sample of 500 individuals from an infinitely large population (say 1 million) in which all 500 individuals responded could be more representative than a sample of 5,000 individuals from a selected sample of 50,000 which only has a 10% response rate, or which was not randomly selected.
18. In paragraph 127, Dr Pratley states that, "Samples are considered representative if the small size is large enough to meet the requirements of the statistical tests applied to the sample." This statement confuses a number of statistical ideas. A sample can only be considered representative if it is unbiased with respect to what is being measured. Meaningful conclusions (and inferences about the population) can only be drawn from any statistical test if the statistical assumptions associated with the test hold. Further, to make valid inferences about the population, it is important to be confident that the sample is representative of the population (i.e. it has no inherent bias).

Understanding of the relationship between a sample design and an achieved sample

19. In paragraphs 128 to 131, Dr Pratley appears to confuse the sample design with the achieved samples, when he claims in each of the four paragraphs that "Based on the design of the survey and the implementation ... the data is representative of the population". Dr Pratley's statement implies that even if a minimal sample size was achieved in a survey, as long as the design was acceptable, the data would be representative. This is not correct. A well-designed sample ensures that bias is not introduced when planning a survey. However it does not guarantee that an unbiased sample will be achieved. In each of the three surveys the survey non-response was large and possible differences between the survey participants and non-respondents could affect the results. To conclude that the data is representative of the population requires both an unbiased sample design and confidence that the achieved sample is unbiased. Again, due to the low response rates to the surveys, the achieved samples may be biased and I cannot be confident that the samples are unbiased.

The purpose of weighting data

20. Dr Pratley in paragraph 135 acknowledges that weighting is usually conducted to overcome a specific issue in the dataset. There are several reasons the data should be weighted.

20.1. The McDonald's population of employees is much larger than the Hungry Jack's employee population. This means that in pooling the results of the two surveys, they should be weighted to reflect the correct proportions of employees from each organisation, so that the pooled results are not biased in favour of the MacDonal'd's employee survey results.

20.2. The McDonald's employees' survey response rate was much greater for the McDonald's employee survey (20%) than the Hungry Jack's employee survey (6%). Weighting would also help address this issue.

21. In paragraphs 141 and 142 Dr Pratley claims that because both surveys had more than 50 respondents there is no need to weight either dataset. This is not a reasonable justification for not weighting the data to report the combined results of the two surveys. The fact that more than 50 respondents participated in each survey is not relevant to the fact that the response rates to the two surveys were markedly different.

Confidence intervals

22. The application of confidence intervals as an indicator of the statistical accuracy of survey results assumes that the achieved samples were randomly selected from the population and the estimates of the population (i.e. the survey results) are unbiased in relation to the franchisee survey.

23. The statistical accuracy of a random sample of 147 from a population of 251 is +/-5.2% at the 95% confidence level. If the sample of licensees yielded results for a random sample of stores, this would be a reasonable level of statistical accuracy. If the sample was representative, for a survey result of 50% from a sample of 147, I would be 95% confident that the result for the population would be in the range of 44.8% to 55.2%.

24. However, I note from the questionnaire (Patricia Deasy's witness statement dated 11 August 2015 Annexure PAD-1: Copy of Online Survey, page 5 of statement) that if a licensee operated more than one store, then they were asked to "base their answers on their largest store". Marek Kopias witness statement in relation to the licensee survey dated 10 August 2015 (paragraph 12) states that 154 licensees operate 2 to 5 stores and 28 operate over 5 stores. This means that 72% of all

licensees operate more than one store. This suggests that the survey results could be biased towards larger stores.

Relevance of qualification and experience

25. I have also reviewed Dr Pratley's qualifications and experience listed in paragraphs 14 to 19 of his report. In my opinion he does not appear to have sufficient relevant experience or training in the fields of social and market research, survey data collection or survey sampling to support his opinions. I also note, with reference to the Statistical Society of Australia's list of Accredited Statisticians³, that Dr Pratley is not an Accredited Statistician.

Declaration

26. I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have, to my knowledge, been withheld from the Commission.



³ Statistical Society of Australia Inc. (2015) *Find a Statistician*. (Viewed on 23 October 2015
<http://www.statsoc.org.au/careers-accreditation/professional-accreditation/find-a-statistician/>)

Annexures

Annexure A: Letter of Further Retainer from A.J. Macken & Co. dated 21 October 2015

Annexure B: Curriculum Vitae of Helen Bartley

A. J. MACKEN & CO.

AUSTRALIAN LAWYERS

ABN 34 068 587 818
11th Floor, 53 Queen Street
Melbourne Vic 3000
Australia

Ausdoc: 447 Melbourne
Webpage:
www.macken.com.au
E-mail:
ajmacken@macken.com.au

Telephone: (03) 9614 4899
[+61 3 9614 4899]
Fax: (03) 9629 3542
[+61 3 9629 3542]

Also at:
Level 5, BMA House
135 Macquarie Street
Sydney, NSW 2000
Australia.

21 October 2015

Ms Helen Bartley
Bartley Consulting Pty Ltd
PO Box 2105
HAWTHORN VIC 3122

Dear Ms Bartley,

Four Yearly Review of Modern Awards - Penalty Rates AM2014/305

You have previously been retained, by letter of retainer dated 17 August 2015, on behalf of the Shop, Distributive and Allied Employees' Association to provide expert opinion and to give evidence in due course before the Full Bench of the Fair Work Commission in relation to the above matter.

We advise that AI Group (AIG) is proposing to call Dr Andrew Pratley, described by AIG as an expert statistician, to give expert evidence in relation to survey evidence proposed to be called on behalf of AIG.

The AIG has filed an Affidavit affirmed by Dr Pratley on 4 September 2015. We enclose with this letter of retainer a copy of that Affidavit and its exhibits including a report by Dr Pratley (Exhibit AP-3)(Pratley Report).

The Affidavit of Dr Pratley separately exhibits, inter alia, the letter of retainer given to him by the AIG and we draw your attention to this correspondence.

The AIG's letter of retainer requests the opinion of Dr Pratley in relation to matters set out in paragraph 7 of that letter.

Dr Pratley was relevantly provided with the following documents:

In relation to the Fast Food Employee Survey:

1. Affidavit of Patricia Ann Deasy affirmed 10 August 2015
2. Affidavit of Marek Kopias affirmed 10 August 2015
3. Affidavit of Gina Feast affirmed 10 August 2015



In relation to the Fast Food Franchisee Survey:

1. Affidavit of Patricia Ann Deasy affirmed 11 August 2015
2. Affidavit of Marek Kopias affirmed 10 August 2015.

You will note in the Executive Summary of the Pratley Report (page 13) that Dr Pratley has limited the expression of his opinion to assessing the “reasonableness” of the representativeness of the employee surveys of McDonald’s and Hungry Jack’s and of the franchisee survey of McDonald’s franchisees.

You are herewith retained to review the Pratley Report and, in relation to the matters of opinion there expressed, indicate to us whether you agree or disagree with any opinions expressed by Dr Pratley and, if you disagree, indicate the basis upon which you hold differing views.

In circumstances where the Pratley Report involves an assessment of the Affidavit material set out above, we also enclose for your consideration copies of that Affidavit material. If there are matters arising from your assessment of the Affidavit material set out above that relevantly bear upon your assessment of the Pratley Report, you should set out any relevant comments in relation to the Affidavit material in a separate section of your report.

The Affidavit of Gina Feast set out above contains a number of confidential exhibits (Confidential Exhibits GF-7 - GF11). It appears from the letter of retainer which issued to Dr Pratley that these confidential exhibits were not provided to Dr Pratley for the purposes of his retainer. On that basis, we do not propose to provide them to you as part of this formal retainer.

The form of your report relevant to this separate retainer should otherwise conform to the format adopted by you in relation to the provision of your earlier report. We refer generally to the matters set out on pages 3-4 of your original letter of retainer dated 17 August 2015.

Regrettably, some urgency attaches to the preparation of your report. We would be grateful if you would give this matter your most urgent attention. It is not anticipated that the preparation by you of this further report will impact in any way upon arrangements already made for the date and time for the receipt of your evidence by the Commission.

Please note that all communications between you, the SDA and its legal representatives relevant to this formal retainer can, on request, be provided to the AIG and the Commission. This includes any draft of your report, including any working notes.

Please contact Mr Dominic Macken on (03) 9614 4899 if you have any queries in relation to the above.

Yours sincerely,



A J MACKEN & CO.



Helen Bartley – Curriculum Vitae

Helen Bartley has more than 25 years quantitative and qualitative research experience designing and conducting market and social research and evaluations in the areas of customer and staff satisfaction, behaviour change, usage and attitude studies, brand health and customer loyalty, program and service evaluations across a wide variety of industry sectors including community health and support services, social housing, justice, education, sustainability, water utilities, agriculture, natural resource management, telecommunications, and other consumer products and service. She also has 15 years' postgraduate experience teaching survey research methods, survey sampling and statistical computing and was honoured the opportunity of appearing in the Federal Court of Australia as an expert witness on a survey related matter.

Qualifications

- Bachelor of Arts, University of Melbourne
- Certificate of Horticultural Studies, Victorian College of Agriculture and Horticulture
- Graduate Diploma of Applied Science, Social Statistics (Swinburne University of Technology)
- Master of Applied Science, Social Statistics (Swinburne University of Technology)

Professional affiliations and appointments

- Accredited Statistician and Member of the Statistical Society of Australia
- Qualified Practising Market Researcher and Member of the Victorian Australian Market and Social Research Society (AMSRS)
- Chair of the AMSRS Victorian Division Committee
- Secretary of the AMSRS Independent Researchers' Group
- Member of the Australasian Evaluation Society

Recent employment history

- Principal Consultant, Bartley Consulting, since 2002
- Sessional lecturer in postgraduate studies and various short courses at Swinburne University of Technology, 1994 to 2008 (Survey Methods, Survey Sampling, Statistical Computing)
- Director – Social and Government Research, TNS and its predecessor companies, 1995 to 2002
- Statistical Consultant, Bostock Marketing, Birmingham UK, 1992-1993

Specialist skills

- Working with clients to develop and plan their research in line with their needs and objectives
- Designing and implementing process and program evaluations
- Writing questionnaires for quantitative research and preparing discussion and interview guides and for qualitative research
- Designing survey samples and weighting data
- Planning and applying appropriate survey data collection methods, such as telephone, face to face, online or mail data collection methods for surveys, according to the research issue and requirements
- Designing and undertaking qualitative research using a range of methods such as in-depth interviews and focus groups, workshops and large group forums

- Managing survey data collection processes including interviewer briefings, monitoring and quality assurance
- Analysing, interpreting and presenting statistical and qualitative data
- Preparing survey and qualitative research and evaluation reports and developing insight and recommendations from the findings
- Presenting research findings to a range of audiences, such as boards, management teams, staff and others and facilitating workshops to help organisations translate research findings into strategies (e.g. to improve service delivery, initiate new service offerings or improve staff morale)
- Undertaking literature reviews and research appraisals
- Analysing secondary data sources to develop demographic and customer profiles to help organisations better understand their customers and take into account their characteristics in their planning