Does ethnicity affect trust in public services?

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Paper prepared for the 2019 conference of the International Research Society for Public Management.

Wellington, New Zealand.

Abstract

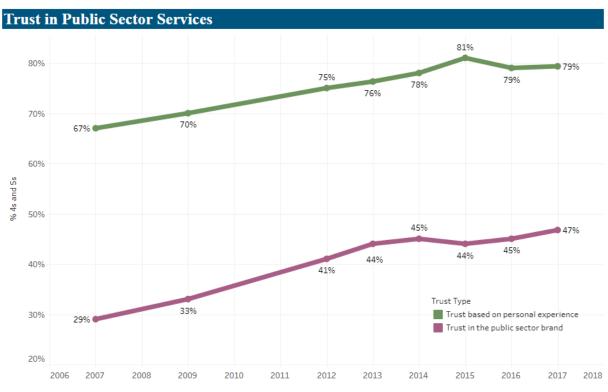
To be effective, public institutions need to be trusted widely, by citizens across differing socio-economic backgrounds. The Kiwis Count survey measures New Zealanders' trust in public services. Results are generally positive, with trust in public services higher than for the private sector and increasing over time. However, there are significant differences in trust across ethnic groups. Māori and Pacific respondents have lower trust and satisfaction in public services than other New Zealanders. Ethnic groups have socio-demographic differences that can help explain these different results. There are also differences between ethnic groups in the types of public services they use. A series of regressions were used to control for the effect of these differences. Doing so diminishes the size and significance of ethnic differences in trust.

¹ The authors currently work at the State Services Commission. This article was prepared in their personal capacity. The views, opinions, findings, and conclusions or recommendations expressed in this article are the authors' own and do not reflect the view of the State Services Commission, or the New Zealand Government.

Introduction

To be effective, public institutions need to be trusted widely, by citizens across differing socio-economic backgrounds. Citizens interact with institutions through the public services they use.

Since 2007, the State Services Commission has been asking New Zealanders about their trust in public services through the Kiwis Count survey. Results are generally positive (State Services Commission, 2018). They show that trust in public services is higher than for the private sector and, unlike for many other countries, has been increasing over time (State Services Commission, 2017).



Source: SSC Kiwis Count Survey

However, there are significant differences in trust across ethnic groups. Māori and Pacific respondents have lower trust and satisfaction in Public Services than other New Zealanders, while Asian respondents have higher trust in the public service brand. This is shown in the following table.

Table 1: Trust by ethnicity, 2012-16

% 4 or 5	Asian	Māori	NZ European	Pacific	Overall
Trust based on personal experience	78.2%	72.0%	78.6%	75.6%	77.8%
Trust in the public service brand	56.2%	37.4%	42.7%	38.0%	43.9%

These figures are supported by results from the General Social Survey (Statistics New Zealand, 2017a), which show that trust in public institutions tends to below average for Māori respondents, and above average for Asian respondents.

It would obviously be concerning if these differences in trust in public services were driven by ethnicity. It raises questions as to whether the integrity of public services is dependent on who is accessing them. It also raises issues

around Te Tiriti o Waitangi (the Treaty of Waitangi), New Zealand's founding document, that sets the principals² underpinning the relationship between Māori and the government.

Ethnic groups have socio-demographic differences that can help explain these different results. There are also differences between ethnic groups in the types of public services they use. This paper aims to test whether ethnic differences in trust remain once we control for these differences.

Data Source

The Kiwis Count Survey

The survey methodology is detailed in Nielsen (2015). Some key points to note:

- The survey was first run in 2007.
- Since 2012, the survey has been run continually over the year.
- The sampling frame for the Kiwis Count Survey are individuals on the New Zealand Electoral Roll. To qualify to be on the Electoral roll people need to:³
 - o Be 18 years and over.
 - Be a New Zealand citizen or permanent resident.
 - o Have lived in New Zealand for one year or more continuously at some point.
- The sample is drawn in iterations in the following order:
 - Māori are oversampled by using the Māori Electoral Roll to identify those of Māori descent.⁴⁵
 This is done to help overcome historically low response from Māori respondents.
 - Youth are oversampled (aged 18 to 24) using the age band field in the Electoral Roll. This is done to help overcome historically low response from younger respondents.
 - o The remaining sample is a stratified sample (by region) of all non-Māori descent electors
- Kiwis Count typically reports results using population weights (calculated using New Zealand Census information) to make the sample more representative of the New Zealand population.
- The response rate over the period used in this study (2012-16) was around 47%.

Measures of trust

Kiwis Count is based on the Canadian First survey run by the Institute for Citizen-Centred Service. A key insight from their approach is:

² For more details of the principles, please see here: https://www.waitangitribunal.govt.nz/treaty-of-waitangi/principles-of-the-treaty/.

³ For details, please see https://www.elections.org.nz/voters/enrol-check-or-update-now/who-can-and-cant-enrol.

⁴ Those of Māori descent can choose to be on the general or Māori roll, and therefore vote in general or Māori electorates.

⁵ This leads to around 90% of Māori respondents in the Kiwis Count survey being sourced from the Māori roll, compared to only around 52% of those of Mäori descent who opt to enrol on the Mäori roll (Electoral Commission, 2018). Greaves et al (2017) find that the extent that someone thinks that being Mäori is positive and part of their self-concept, and are engaged with Mäori political issues the more likely they are to be on the Mäori roll. Banducci et al (2004) found that those on the Mäori roll tended to have lower incomes than Mäori on the general

"When citizens evaluate services they have used recently, they draw on particular memories of actual experiences... When citizens rate government services in general, they draw on opinions and possibly stereotypes of government, and these tend to be negative." (Erin Research, 1998)

Following this insight, Kiwis Count measures trust in two ways:

1. Trust based on a specific personal experience. Respondents are asked to think about their most recent public service interaction:

"Thinking about your most recent service contact, can you trust them [public servants] to do what is right?"

2. Trust based on general perception (which the State Services Commission refers to as trust in brand). This is measured by asking respondents:

"Thinking about your overall impressions and from what you know or have heard from family, friends or the media, to what extent do you trust the public service?"

Trust is asked using a five-point Likert scale. For reporting purposes, the State Services Commission transforms this into a binary variable (1,2,3 no trust; 4,5 trust).

Measure of ethnicity

Ethnicity is a measure of cultural affiliation. It is not a measure of race, ancestry, nationality, or citizenship. Ethnicity is self-perceived, and people can belong to more than one ethnic group. (Statistics New Zealand, 2017b)

Ethnic differences in socio-demographic characteristics

This section looks at the socio-demographic composition of Kiwis Count respondents. These differences between ethnic groups can help explain differences in trust and satisfaction that we observe. In a later section of this report, we use regression analysis to better control for these differences.

Table 2 shows the distribution by ethnicity from Kiwis Count for the period 2012-2016. This is the period we will be analysing further in this paper. As respondents can identify as more than one ethnicity, the total is more than the number of respondents. Table 1 also lists the equivalent numbers from the 2013 Census. This shows that non-NZ Europeans are less likely to respond to the Kiwis Count survey than NZ Europeans. Survey weights are used to counteract this when calculating Kiwis Count results.

TABLE 2; UNWEIGHTED ETHNICITY, 2012-16

Ethnicity	Unweighted Number	Unweighted %	Census 2013 Number ⁶	Census 2013 %
Asian	1,391	9.2%	471,708	11.1%

⁶ http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-culture-identity.aspx

Māori	1,239	8.2%	598,602	14.1%
NZ European ⁷	11,617	76.6%	2,969,391	70.0%
Pacific	469	3.1%	295,941	7.0%
Other and Not Stated	1,291	8.5%	230,649	8.1%
Total respondents	15,169	105.6%	4,242,048	110.3%

Table 1 shows that females are over represented in the sample. The overall NZ population comprises of 48.7 percent male and females 51.3%. The effect is small overall but is larger for Māori and Pacific respondents.

TABLE 1; UNWEIGHTED GENDER BY ETHNICITY, ALL YEARS

Ethnicity	Female	Male	% Female
Asian	775	616	55.7%
Māori	756	483	61.0%
NZ European	6,519	5,098	56.1%
Pacific	278	191	59.3%
Other and Not Stated	706	585	54.7%
Total respondents	8,490	6,679	56.0%

The sample in the survey tends to be older than that of the NZ population, with those aged 18 to 34 years under represented (10.4% of the Kiwis Count sample versus 12.8% of the 2013 Census) and those over 65 over represented (26.0% of the Kiwis Count sample versus 19.0% of the 2013 Census. This may be due to older people have more discretionary time to complete the survey.

There are large differences across ethnicities in the Kiwis Count sample. Whereas 29.3% of NZ Europeans are 65 years of old or older, only 9.6% of Asians, 10.4% of Pacific and 13.3% of Māori are.

Table 44 illustrates the ethnic share of respondents who identify as having a disability. A comparison with Table 2 shows that Asian respondents are less likely to have a disability in the sample, while those with a Māori or New Zealand European ethnicity are more likely to have a disability.

TABLE 4; UNWEIGHTED DISABILITY, ALL YEARS

Ethnicity	With a Disability	Share of total with a disability
Asian	71	4.0%
Māori	209	11.7%
NZ European	1,447	81.1%
Pacific	53	3.0%
Other and Not Stated	111	6.2%
Total with disability	1,785	106.0%

There are big differences in the highest qualification respondents hold across ethnicities in the Kiwis Count sample. Of those who reported a qualification, 47.9% of Asians reported a degree or postgraduate qualification compared with 25.4% of NZ Europeans, 16.9% of Māori and 15.1% of Pacific respondents.

A factor that is not measured in the Kiwis Count survey is country of birth or time spent in New Zealand. These figures are available from 2013 Census results (Statistics New Zealand, 2014). They show that less than half (47 percent) of people born in Asia had been in New Zealand for 10 years or more (other birthplaces had much higher proportions). As we can't control for this in our regressions, this factor may influence our results.

⁷ Kiwis Count identifies NZ Europeans rather than Europeans, which also includes Other Europeans. Other Europeans are a relatively small group (around 8% of all Europeans in the 2013 Census)..

Ethnic differences in public services

Table A5 (at the end of the paper) shows that there are significant differences between ethnic groups in their usage of public services. We will later see that different public services are associated with different levels of trust and this may be affecting ethnic variations in trust. For example, Māori and Pacific respondents were significantly more likely to have reported using social services which are, as we will show, associated with lower levels of trust in experience.

Customers can access public services in different ways. Traditional channels such as visiting an office or receiving a letter are strongly represented in the survey. Table 55 identifies the channel used most recently by ethnicity.

TABLE 5; CHANNEL USED MOST RECENTLY BY ETHNICITY, ALL YEARS

One method used most recently	Asian	Māori	NZ European	Pacific	Overall
Visited an office, branch or location or received a visit (and dealt with a person)	44.3%	44.2%	48.1%	43.5%	47.1%
Sent or received a letter	14.5%	17.3%	13.9%	21.1%	14.7%
Sent or received an email	12.0%	8.0%	8.9%	8.4%	9.2%
Rang or received a call on the telephone	12.2%	19.0%	14.6%	16.1%	14.7%
Visited a website looking for information about public services	8.1%	5.2%	4.9%	6.2%	5.4%
Visited a website looking for transactions or dealings with public services	9.0%	6.3%	9.5%	4.7%	8.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

A couple of notable points:

- Māori and Pacific respondents are more likely to engage with public services using letters or the telephone than other ethnicities.
- o Those respondents of Asian ethnicity are more likely to visit a website looking for information
- Respondents of New Zealand European ethnicity are most likely to visit an office, branch or location, or received a visit (and dealt with a person).

Method

The Models

As we have shown, those of Māori and Pacific ethnicity have lower levels of trust, and those of Asian ethnicity have higher levels of trust in the public service brand. However, the report has already showed that there are socio-economic differences between ethnic groups, and differences in the usage of public services. To what extent are these differences driving the observed differences in trust among ethnic groups? To answer this, we used a series regression models to control for these other differences in our two trust measures.

TRUST (EXPERIENCE) =

YEAR + ETHNIC VARIABLES + SOCIO-DEMOGRAPHIC VARIABLES + MOST RECENT PUBLIC SERVICE USED + MOST RECENT CHANNEL USED

TRUST (BRAND) =

YEAR + ETHNIC VARIABLES + SOCIO-DEMOGRAPHIC VARIABLES + ALL PUBLIC SERVICES USED IN PAST 12 MONTHS

The regression models differ in in how they incorporate public services. In the Kiwis Count survey, trust in experience is asked about the most recent public service used, so it makes sense to use that information in the model. For trust in the public service brand, model testing showed that it was more affected by the range of public services used in the last 12 months, information also collected in the survey.

Four different types of regression model were used to account for the complexity of the data, and these are shown in the table below:

	Logistic regressions using the same trust variable used in public reporting (1,2,3 vs 4,5)	Ordered logit regressions to show how trust differs across the five-point Likert scale
Unweighted data	18	2 ⁹
Weighted data	3 ¹⁰	4 ¹¹

Logistic regressions were used to provide results that were consistent with the way trust is reported from the Kiwis Count survey. Ordered logistic regressions were also used to understand how trust differs by ethnicity across the five-point Likert scale. Ordinal regressions can have greater power to detect statistically significant effects, but they do depend on the effect of each variable to be consistent across the Likert scale, and we find mixed evidence on whether this assumption holds (as we discuss later).

There is also the issue of whether to account for the design of the survey when specifying regressions, and this is discussed by Solon et al (2013). They make two recommendations, that we follow here:

- 1. To report robust standard error estimates. 12
- 2. To report both weighted and unweighted estimates, as:
 - a. This allows the relative precision of the two approaches to be compared. Generally, our unweighted results appear to be more precise as their standard errors are lower than for the weighted version.

¹⁰ Run using the Survey-Weighted Generalised Linear Models (svyglm) function in the Analysis of Complex Survey Samples (survey) package (Lumley, 2019). The Survey Sample Analysis (svydesign) function was used to specify the strata variables (quarter, Māori, age, region) and sampling weights.

⁸ Run using the Logistic Regression Model (Irm) function in the Regression Modeling Strategies (rms) package (Harrell, 2019).

⁹ Ditto

¹¹ Run using the Proportional Odds And Related Models (svyolr) function in the Analysis of Complex Survey Samples (survey) package (Lumley, 2019). The Survey Sample Analysis (svydesign) function was used to specify the strata variables (quarter, Māori, age, region) and sampling weights.

¹² These control for heteroskedasticity. To give an example from our regressions, this would be the situation where the precision of the estimated effect of a respondent's age on trust varies with age. Robust standard errors tend to be larger to deal with this, and this means the model is more conservative when estimating which effects are statistically significant.

b. "When weighted and unweighted estimates contradict each other, this may be a red flag that the specification is not a good enough approximation to the true form...". So, it is reassuring that our weighted and unweighted results generally do not contradict each other. For example, there are no significant results where a result changes from being less likely to more likely (or vice versa) between the weighted and unweighted versions.

At this stage in our research we are agnostic as to which of the four models provides the most robust results (we invite discussion on this). Therefore, we take a conservative approach in summarising our results, concentrating on results that are significant across all four models.

The Study Population

This paper uses data from Kiwis Count Survey, a representative survey of New Zealanders aged 18 years and over. The survey is run continuously through the year. Five years of data (2012-16) have been rolled-up to provide a large sample for analysis.

N = 14,200 (trust in brand)

N = 11,600 (trust in experience)

Respondents are less likely to answer the trust in experience question, which accounts for the smaller sample size.

Regression Results

The results for these regressions are reproduced in Tables A1 to A4 at the end of the paper:

- Table A1 presents the results for *experience of trust* using the *logit* model
- Table A2 presents the results for *experience of trust* using the *ordered logit* model
- Table A3 presents the results for trust in the public service brand using the logit model
- Table A4 presents the results for trust in the public service brand using the ordered logit model

Each table has six sets of results.

- Results controlling just for ethnicity only, not using the survey design in the model (unweighted)
- Results controlling just for ethnicity only, using the survey design in the model (weighted)
- Results controlling for ethnicity and socio-demographic variables, not using the survey design in the model (unweighted)
- Results controlling for ethnicity and socio-demographic variables, using the survey design in the model (weighted)
- Results controlling for ethnicity, socio-demographic and service variables, not using the survey design in the model (unweighted)

 Results controlling for ethnicity, socio-demographic and service variables, using the survey design in the model (weighted)

Note that personal income, household income and geographic region were initially included as part of the sociodemographic set of variables. However, they did not significantly affect trust and so were removed from the final models presented in this paper.

The logit and ordered logit results are presented as odds ratios. If the number is less than one this means that this group is less likely to trust than the reference group; more than one the group is more likely to trust than the reference group. For example, Table A1 shows that when controlling just for ethnicity, Māori are around 28% less likely to trust than non- Māori and this is statistically significant at the 1% level¹³. Significance is calculated using robust standard errors.

The key points from the regression goodness of fit measures at the bottom of each table are that: 14

- The regression models are more successful in explaining the variation we observe in experience of trust, than in trust in the public service brand. This makes sense given that experience of trust is narrowly focused on a specific service interaction and information on this interaction can be controlled for.
- Variables on public services used explain more of the variation in trust, than do the socio-demographic variables.

Experience of trust – Ethnic results

This section summarises the results for ethnicity from tables A1 and A2. Controlling for just ethnicity:

- Māori respondents are around 20-28% less likely to trust than non-Māori in their most recent service experience.
- Asian respondents are around 20-24% less likely to trust, but only when looking across entire 5-point Likert scale.

When you also control for socio demographic variables:

• This reduces somewhat the size and significance for both Māori (13-20% less likely to trust) and Asian respondents (15-20% less likely to trust across the entire 5-point Likert scale).

Controlling for socio-demographic variables and services (the full model):

• Size and significance of difference for Māori respondents diminishes. Only one of the four models find trust for Māori (weakly) significantly lower than for non-Māori.

¹³ In other words, the probability of observing such a result by chance is less than 1 percent.

¹⁴ To be robust ordered logits assume that the proportional odds assumption hold.; that is that coefficients for each variable are the same across the Likert scale. We were able to run Brant tests (Brant, 1990) using the Brant R package (Schelegel and Steenbergen, 2018) on the unweighted logit models. These found that the parallel regression assumption held but warned that the tests may be invalid due to the high number of possible combinations that could not be tested.

• Even after adding services, Asian respondents are still less likely (18-21%) to trust when look across entire 5-point Likert scale. Further investigation¹⁵ shows that this is driven by Asian respondents being less likely to rate their trust in the experience of a recent service interaction a '5' than non-Asian respondents. Responses across the rest of the Likert scale are otherwise similar.

Experience of trust – Other variables

In the full model we see that:

- Females are more likely to trust than men, but only when looking across the entire 5-point Likert scale.
- Respondents with a disability are less likely to report trust based on experience than those without a
 disability.
- Trust generally increases with age, especially for those that are aged 44 to 55 years and over.
- Compared to respondents with no qualifications, those whose highest qualification is a trade qualification are less likely to trust. Those respondents whose highest qualification is a higher-level school qualification (bursary, scholarship, NCEA level 3 or 4) are more likely to trust, but only when trust is measured as a binary variable (1,2,3 no trust versus 4,5 trust).
- As you would expect, trust based on experience is significantly affected by the most recently used service.
 Generally, respondents are less likely less likely to trust in local government and social assistance services;
 more likely to trust in education services for their children.
- In terms of the channel that was used in the most recently used service, respondents are more likely to trust when the interaction was in person compared to correspondence. Respondents are less likely to trust when the interaction was by telephone, although this effect is only weakly significant and only exists when looking across the entire Likert scale.

A couple of points to note with the results for the most recent public service used. First, given that experience of trust is highly rated on average¹⁶, it makes sense that statistically significant services tend have lower trust.

Second, the significantly lower trust in social services may be driven by respondents who have had their application for social service declined as they do not meet the criteria or have been put on a waiting list. Kiwis Count survey results on satisfaction with these services also show relatively low ratings. However, New Zealand research tends to show positive outcomes from using social services. For example, research has shown that placement into social housing is associated with positive outcomes such as declines in hospitalisations (Baker et al, 2010) and improvements in housing conditions (Social Investment Agency, 2018).

Trust in brand – Ethnic results

This section summarises the results for ethnicity from tables A3 and A4. Controlling for just ethnicity:

Asian respondents are around 66-78% more likely to trust than non-Asian respondents.

¹⁵ Carried out using the marginal effect for ordered choice model function in the erer R package (Sun, 2016).

¹⁶ On a five-point scale, just over half of responses are a '5'.

- Māori respondents are around 18-26% less likely to trust the overall public service brand than non-Māori.
- Pacific respondents are 18-19% less likely to trust, but only when trust is grouped into a binary variable (1,2,3 vs 4,5)

When you also control for socio-demographic variables:

- There is little effect on the size and significance of results for Asian respondents.
- There is a reduction in the size and significance of results for Māori respondents (13-17% less likely to trust).
- There are no longer any significant differences for Pacific respondents.

Controlling for socio-demographic variables and services (the full model):

- Asian respondents are still more likely to trust than non-Asian respondents (now around 56-70%)
- Size and significance of difference for Māori and Pacific respondents diminishes. Only one of the four models find trust for Māori (weakly) significantly lower than for non-Māori.

Trust in brand - Other variables

In the full model we can see that:

The other variables that have significant effects on the public sector brand are:

- Females are less likely to trust compared to men. This contrasts with the result for trust in experience.
- Respondents with a disability are less likely to trust compared to those without a disability.
- Respondents aged over 55 years (particularly over 65 years) of age are more likely to trust
- Compared to respondents with no qualifications:
 - Those with a highest qualification of 'Bursary, Scholarship, NCEA level 3 or 4' or 'a degree or postgraduate qualification' are more likely to trust.
 - o Those with 'a trade qualification' are less likely to trust.
- As you would expect, the impact of public services used by the respondent has less of an impact on trust in brand than trust in experience. Still some services have statistically significant relationships with trust in the public service brand. Again, services provided by local government (except for public libraries) generally have lower levels of trust.

Conclusions

Summary

To be effective, public institutions need to be trusted widely, by citizens across differing socio-economic backgrounds. Citizens interact with institutions through the public services they use.

Since 2007, the State Services Commission has been asking New Zealanders about their trust in public services through the Kiwis Count survey. Trust is measured in two ways, using five-point Likert scales:

- 1. Trust in the most recent experience of public services.
- 2. Trust in the overall public service, which is referred to as the trust in the public service brand.

Results are generally positive. They show that trust in public services is higher than for the private sector and, unlike for many other countries, has been increasing over time. However, there are significant differences in trust across ethnic groups. In particular, Māori and Pacific generally have lower reported trust in public services than other New Zealanders.

Ethnic groups have socio-demographic differences that can help explain these results. There are also differences between ethnic groups in the types of public services they use. These differences may also be affecting trust levels between ethnicities.

Four regressions were used, to account for the complexity of the data, to control for these differences:

	Logistic regressions using the same trust variable used in public	Ordered logit regressions to show how trust differs across the five-
	reporting (1,2,3 vs 4,5)	point Likert scale
Unweighted	1	2
Weighted	3	4

These regressions found that:

- Without controlling for socio-demographic and service use differences, Māori, Pacific and Asian
 respondents are generally less likely to trust than others across both measures of trust with one
 exception Asian respondents are significantly *more* likely to have trust in the overall public service
 brand than non-Asians.
- The size and significance of these ethnic differences diminish once we control for other factors,
 especially the public services people use.
 - The only ethnic result that is still significant across all four regressions is that Asian respondents are more likely to have more trust in the overall public service brand than non-Asians.
 - However, Asian respondents are significantly less likely to rate their trust in the experience
 of a recent service interaction a '5' than non-Asians.
 - These results for Asian respondents may be driven by the fact that they are, on average, more
 recent arrivals to New Zealand than other ethnic groups. This is a factor we could not control
 for in our regressions.
- In terms of other variables (after controlling for other factors):
 - The types of public services people use has the largest effect on trust. How they access services also affects trust.

- Age, qualifications, disability status all significantly affect both trust from personal experience and trust in the public sector brand. Gender significantly affects trust in the public sector brand.
- Neither personal or household income has a significant effect on trust. Geographic region also did not significantly affect trust.

As always, the analysis is limited by the fact we can only control for factors that were measured in the Kiwis Count survey. There may be other factors that are more important drivers of respondent's levels of trust in public services. This may be particularly true for trust in the public service brand as its model has relatively low explanatory power.

Future direction

There several possible directions to take this research.

It is likely that our two measures of trust are associated with each other in some way. For example, that the trust a respondent felt in their most recent service experience affects their trust in the overall public services, or viceversa. Future work could look to control for any such relationship between the two dependent variables using multivariate regression techniques.

The Kiwis Count survey also contains a measure of trust in the overall private sector brand. Doing a similar regression model for this would shed light on the extent that ethnic and other socio-demographic differences in trust in the public services brand are specific to public services or more general in nature.

Finally, there is the potential to repeat the analysis using Kiwis Count data from 2017 onwards. This would allow the use of the improved questionnaire that was introduced in 2017. One improvement was an updated list of public services that better reflect services that people use. Another improvement was the introduction of new free text fields to record respondent's thoughts around public services. Qualitative analysis of these could provide better understand of the underlying drivers behind our quantitative results.

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Table A1 – Experience (logit results)

Variable	` _	ty only	Add socio de	mographics	Add se	rvices
Variable 2012)	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Year (reference = 2012) 2013	1.019	1.073	1.019	1.089	0.997	1.080
2014	1.178 **	1.171 **	1.142 *	1.166 *	1.129 *	1.167 *
2015	1.377 ***	1.350 ***	1.335 ***	1.342 ***	1.262 **	1.292 **
2016	1.275 ***	1.280 **	1.275 ***	1.275 **	1.218 **	1.235 **
Asian Ethnicity (reference = non-Asian)						
Asian	0.897	0.997	0.934	1.020	0.921	0.987
Māori Ethnicity (reference = non-Māori)						
Māori	0.720 ***	0.718 ***	0.818 **	0.796 **	0.896	0.849
Pacific Ethnicity (reference = non-Pacific)						
Pacific	0.820	0.916	0.920	0.998	1.025	1.098
Gender (reference = Male)						
Female			1.140 ***	1.060	1.048	0.980
Disability (reference = No Disability)						
Has disability			0.654 ***	0.646 ***	0.784 ***	0.770 ***
Age (reference = 45-54 years)						
18-24 years			0.793 **	0.727 ***	0.886	0.780 **
25-34 years			0.961	0.958	0.976	0.968
35-44 years			1.017 1.173 **	0.983 1.184 **	0.934 1.209 **	0.890 1.192 **
55-64 years 65 years and over			2.203 ***	1.974 ***	1.762 ***	1.723 ***
·			2.203	1.974	1.762	1.723
Qualifications (reference = No Qualifications	5)		1 110	1 000	1.045	0.004
School Certificate or NCEA level 1	CEA lovel 2		1.112	1.092	1.045	0.994
Sixth Form Certificate, University Entrance or N	JEA IEVEI Z		1.022	1.040	0.947	0.914
Bursary, Scholarship, NCEA level 3 or 4			1.295 **	1.507 ***	1.256 *	1.393 **
A Contificate or diploma that does not require a	logroo		0.836 * 0.935	0.780 ** 0.930	0.809 ** 0.865	0.734 *** 0.843 *
A certificate or diploma that does not require a c	legree		1.240 ***			1.046
A degree or postgraduate qualification Other qualification			1.240	1.192 * 1.189	1.117 1.067	1.046
Most Recent Public Service Used (reference	- Registering	now company				
Visited a national park	= Registering a	i new company	or ming an am	iluai returni ior	1.426	1.248
A hunting or fishing licence					0.932	0.801
National environmental issues or the Resource	Janagement Act				0.091 ***	0.062 ***
Obtain, renewed, change or replaced a driver lice	•				1.159	1.167
Licensed or registered a vehicle	51.00				1.421	1.268
A state or state integrated (public) school that y	our child attends	or may attend in	the future		2.219 ***	2.105 **
A university, polytechnic or wananga about a co					1.268	1.148
Employment or retraining opportunities	•	,			0.444 **	0.377 **
Applying for or receiving a student loan or student	nt allowance				0.502 **	0.497 **
A kindergarten that your child attends or may at		e			2.824 ***	2.814 ***
ERO (Education Review Office) school or early of					0.638	0.597
Received outpatient services from a public hospi	tal (includes A &	E)			1.240	1.105
Stayed in a public hospital					1.315	1.193
Obtaining family services or counselling					1.059	0.991
Used an 0800 number for health information					1.249	1.081
Visited a public library					3.477 ***	2.717 ***
Your local council about rubbish or recycling					0.442 **	0.464 **
Your local council about property rates					0.382 ***	0.390 ***
Your local council about road maintenance					0.258 ***	0.212 ***
Your local council about a building permit					0.192 ***	0.159 ***
A passport					1.747 *	1.605
Registering a birth, death, marriage or civil union		roort from Augustra	dia		1.274	1.356
The arrival process after landing at a New Zealar The arrival process after landing at a New Zealar				edia.	1.723 *	1.203
,	iu international al	iport irom anywr	iere except Austr	alia	1.046	1.013
The Police (for a non-emergency situation) Paying fines or getting information about fines					0.819 0.492 **	0.736 0.479 **
Emergency services i.e. 111					0.492 2.191 **	2.277 **
A court, about a case you were involved with					0.413 ***	0.311 ***
The Community Services card					0.848	0.884
Accident compensation for injuries					0.584 *	0.541 *
Receiving a benefit such as the sickness, dome	stic purposes or	unemployment h	enefit		0.252 ***	0.248 ***
A housing subsidy or accommodation supplement					0.318 ***	0.295 ***
A childcare subsidy	-				0.305 ***	0.208 ***
Living in a Housing New Zealand home					0.379 ***	0.314 ***
A rental property bond lodgement, refund or tran	sfer				1.874	1.220
New Zealand Superannuation					0.723	0.618
Visited sorted.org.nz for information to help man	age your persona	al finances or reti	rement income		1.752	2.356 *
Enquired about tax, receiving tax credits (such a	s Working for Fa	milies), student	loan repayments	or KiwiSaver	0.439 ***	0.464 **
Contact with Statistics New Zealand for informat					1.288	1.695
Importing goods into New Zealand or customs d	uties				0.406 ***	0.348 ***
Registered a business entity for tax purposes or	filed a tax return				0.604	0.639
Most Recent Channel Used (reference = Rec	eived or senta	letter/fax/emai	I)			
Visited an office or location, or received a visit					1.399 ***	1.368 ***
Rang or received a call on the telephone					0.941	0.880
Used a website for transactions or to look for infe	ormation				1.107	1.032
Number of observations	11,617	11,617	11,617	11,617	11,617	11,617
R2 (Nagelkerke)	0.006	0.006	0.030	0.028	0.171	0.166
AKI	11,928	12,197	11,776	12,067	10,735	11,071
C (Area under ROC curve)	0.541		0.596		0.727	
*** means statistically significant at the 1% leve	I, ** significant at	the 5% level, * s	significant at the	10% level		

Table A2 - Experience (Ordered LOGIT results)

Variable	•		resuits	-		
Variable	Ethnicit Unweighted	y only Weighted	Add socio de Unweighted	mographics Weighted	Add se Unweighted	rvices Weighted
Year (reference = 2012)	onn orginied	Troigined	Jimoigined	giiteu	Jimoigined	gineu
2013	1.044	1.037	1.047	1.049	1.023	1.033
2014	1.155 ***	1.125 *	1.119 **	1.117 *	1.100 *	1.109
2015	1.282 ***	1.227 ***	1.244 ***	1.213 ***	1.190 ***	1.164
2016	1.216 ***	1.215 ***	1.221 ***	1.207 **	1.167 **	1.151
Asian Ethnicity (reference = non-Asian)						
Asian	0.751 ***	0.814 ***	0.797 ***	0.846 ***	0.789 ***	0.821
Māori Ethnicity (reference = non-Māori)						
Māori	0.792 ***	0.769 ***	0.877 *	0.835 **	0.938	0.872
Pacific Ethnicity (reference = non-Pacific)						
Pacific	0.796 **	0.853	0.883	0.931	0.950	0.993
Gender (reference = Male)						
Female			1.226 ***	1.181 ***	1.129 ***	1.102
Disability (reference = No Disability)						
Has disability			0.741 ***	0.703 ***	0.836 ***	0.795
Age (reference = 45-54 years)						
18-24 years			0.781 ***	0.743 ***	0.872 *	0.805
25-34 years			0.934 1.047	0.938	0.921 0.960	0.919
35-44 years 55-64 years			1.155 **	1.025 1.174 ***	1.153 **	0.926 1.141
65 years and over			1.803 ***	1.808 ***	1.581 ***	1.591
Qualifications (reference = No Qualification	ons)					
School Certificate or NCEA level 1	,		1.025	1.002	0.959	0.914
Sixth Form Certificate, University Entrance or	NCEA level 2		1.040	1.062	0.973	0.949
Bursary, Scholarship, NCEA level 3 or 4			1.149	1.261 **	1.110	1.185
A Trade Qualification			0.840 **	0.797 **	0.801 ***	0.744
A certificate or diploma that does not require a	a degree		0.976	0.977	0.900	0.891
A degree or postgraduate qualification			1.154 **	1.148 *	1.033	1.012
Other qualification			1.218	1.160	1.125	1.060
Most Recent Public Service Used (referen	ce = Registering a	new company	or filing an an	nual return for	a registered cor	npany)
/isited a national park					1.497 *	1.345
A hunting or fishing licence					1.313	1.117
National environmental issues or the Resource	•				0.098 ***	0.088
Obtain, renewed, change or replaced a driver	icence				1.210	1.201
Licensed or registered a vehicle					1.442 *	1.314
A state or state integrated (public) school that	•	•			2.103 ***	1.920
A university, polytechnic or wananga about a	course you are atte	nding or may at	end in the future		1.254	1.088
Employment or retraining opportunities	lant allawanaa				0.686	0.656
Applying for or receiving a student loan or stud					0.537 ***	0.503
A kindergarten that your child attends or may ERO (Education Review Office) school or earl		,			2.683 *** 0.776	2.457 0.783
Received outpatient services from a public hos	•	E)			1.476 *	1.292
Stayed in a public hospital	phar (morados 71 d	_,			1.510 *	1.391
Obtaining family services or counselling					1.166	1.115
Jsed an 0800 number for health information					1.806 *	1.681
Visited a public library					2.773 ***	2.297
Your local council about rubbish or recycling					0.499 ***	0.534
Your local council about property rates					0.422 ***	0.435
Your local council about road maintenance					0.279 ***	0.178
Your local council about a building permit					0.200 ***	0.174
A passport					1.759 **	
Registering a birth, death, marriage or civil un					4 007 *	1.646
	and international ai				1.927 *	1.646 1.850
					1.434 *	1.850 1.197
The arrival process after landing at a New Zea				ralia	1.434 * 1.115	1.850 1.197 1.037
The arrival process after landing at a New Zea The Police (for a non-emergency situation)				ralia	1.434 * 1.115 1.134	1.850 1.197 1.037 0.958
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines				ralia	1.434 * 1.115 1.134 0.534 **	1.850 1.197 1.037 0.958 0.493
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111				ralia	1.434 * 1.115 1.134 0.534 ** 3.003 ***	1.850 1.197 1.037 0.958 0.493 2.385
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with				ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 **	1.850 1.197 1.037 0.958 0.493 2.385 0.387
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card				ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries	land international ai	rport from anywl	nere except Austr	ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 **	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor	land international ai	rport from anywl	nere except Austr	ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 ***	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet	land international ai	rport from anywl	nere except Austr	ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 ***	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation suppler A childcare subsidy	land international ai	rport from anywl	nere except Austr	ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.371 **	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet A childcare subsidy Living in a Housing New Zealand home	nestic purposes or nent	rport from anywl	nere except Austr	ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.371 ** 0.433 ***	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr	nestic purposes or nent	rport from anywl	nere except Austr	ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.371 **	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation suppler A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tri	nestic purposes or nent	rport from anywl	nere except Austr	ralia	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.371 ** 0.433 *** 1.658 *	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation suppler A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m	nestic purposes or nent ansfer anage your persona	rport from anywl	nere except Austr		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.371 ** 0.433 *** 1.658 * 0.849	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation suppler A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m Enquired about tax, receiving tax credits (suc)	nestic purposes or ment ansfer anage your persona n as Working for Fa	unemployment be al finances or returnilies), student	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 *** 0.295 *** 0.371 ** 0.433 *** 1.658 ** 0.849 1.469	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m Enquired about tax, receiving tax credits (suc Contact with Statistics New Zealand for inform	nestic purposes or ment ansfer anage your persons n as Working for Fa action or about takir	unemployment be al finances or returnilies), student	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 *** 0.285 *** 0.371 ** 0.433 *** 1.658 0.849 1.469 0.507 ***	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Enquired about tax, receiving tax credits (suc) Contact with Statistics New Zealand or customs mporting goods into New Zealand or customs	nestic purposes or nent ansfer anage your persona n as Working for Fa lation or about takin duties	unemployment be al finances or returnilies), student no part in a surve	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.371 ** 0.433 *** 1.658 * 0.849 1.469 0.507 *** 1.050	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Findited sorted.org.nz for information to help me Enquired about tax, receiving tax credits (suc) Contact with Statistics New Zealand or customs Registered a business entity for tax purposes	nestic purposes or nent ansfer anage your persona n as Working for Fa lation or about takir duties or filed a tax return	unemployment but al finances or returnilies), studenting part in a surve	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.433 *** 1.658 * 0.849 1.469 0.507 *** 1.050 0.451 ***	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505 1.074
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation suppler A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m Enquired about tax, receiving tax credits (suc) Contact with Statistics New Zealand or customs Registered a business entity for tax purposes Most Recent Channel Used (reference = R	nestic purposes or nent ansfer anage your persona n as Working for Fa lation or about takir duties or filed a tax return eceived or sent a	unemployment but al finances or returnilies), studenting part in a surve	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.433 *** 1.658 * 0.849 1.469 0.507 *** 1.050 0.451 ***	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505 1.074 0.413
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation suppler A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m Enquired about tax, receiving tax credits (suc Contact with Statistics New Zealand for inform mporting goods into New Zealand or customs Registered a business entity for tax purposes Most Recent Channel Used (reference = R Visited an office or location, or received a visit	nestic purposes or nent ansfer anage your persona n as Working for Fa lation or about takir duties or filed a tax return eceived or sent a	unemployment but al finances or returnilies), studenting part in a surve	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.295 *** 0.371 ** 0.433 *** 1.658 * 0.849 1.469 0.507 *** 1.050 0.451 *** 0.738	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505 1.074 0.413 0.737
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m Enquired about tax, receiving tax credits (suc Contact with Statistics New Zealand for inform Importing goods into New Zealand or customs Registered a business entity for tax purposes Most Recent Channel Used (reference = R Visited an office or location, or received a visit Rang or received a call on the telephone	nestic purposes or nent ansfer anage your persona a se Working for Fa ation or about takir duties or filed a tax return eceived or sent a	unemployment but al finances or returnilies), studenting part in a surve	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 *** 0.295 *** 0.371 ** 0.433 *** 1.658 0.849 1.469 0.507 *** 1.050 0.451 *** 0.738 1.237 ***	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505 1.074 0.413 0.737
The arrival process after landing at a New Zea The arrival process after landing at a New Zea The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation suppler A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help menquired about tax, receiving tax credits (suc Contact with Statistics New Zealand or customs Registered a business entity for tax purposes Most Recent Channel Used (reference = R Visited an office or location, or received a visit Rang or received a call on the telephone Used a website for transactions or to look for Number of observations	nestic purposes or nent ansfer anage your persona a se Working for Fa ation or about takir duties or filed a tax return eceived or sent a	unemployment but al finances or returnilies), studenting part in a surve	penefit irement income loan repayments		1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 *** 0.295 *** 0.371 ** 0.433 *** 1.658 0.849 1.469 0.507 *** 1.050 0.451 *** 0.738 1.237 *** 0.889 *	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505 1.074 0.413 0.737
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplei A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m Enquired about tax, receiving tax credits (suc) Contact with Statistics New Zealand for inform Importing goods into New Zealand or customs Regtistered a business entity for tax purposes Most Recent Channel Used (reference = R Visited an office or location, or received a visit Rang or received a call on the telephone Used a website for transactions or to look for	nestic purposes or nent ansfer anage your persona n as Working for Fa lation or about takir duties or filed a tax return eceived or sent a	unemployment but in a structure in a structure in a survente in a surven	penefit irement income loan repayments	or KiwiSaver	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 *** 0.285 *** 0.371 ** 0.433 *** 1.658 * 0.849 1.469 0.507 *** 1.050 0.451 *** 0.738 1.237 *** 0.889 * 0.975	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505 1.074 0.413 0.737
The arrival process after landing at a New Zea The Police (for a non-emergency situation) Paying fines or getting information about fines Emergency services i.e. 111 A court, about a case you were involved with The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, dor A housing subsidy or accommodation supplet A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or tr New Zealand Superannuation Visited sorted.org.nz for information to help m Enquired about tax, receiving tax credits (suc Contact with Statistics New Zealand or customs Registered a business entity for tax purposes Most Recent Channel Used (reference = R Visited an office or location, or received a visit Rang or received a call on the telephone Used a website for transactions or to look for Number of observations	nestic purposes or ment ansfer anage your persona as Working for Falation or about taking duties or filed a tax return eceived or sent a information 11,617	unemployment but in a structure in a structure in a survente in a surven	penefit pen	or KiwiSaver	1.434 * 1.115 1.134 0.534 ** 3.003 *** 0.495 ** 1.102 0.582 ** 0.282 *** 0.295 *** 0.371 ** 0.433 *** 1.658 * 0.849 1.469 0.507 *** 1.050 0.451 *** 0.738 1.237 *** 0.889 * 0.975	1.850 1.197 1.037 0.958 0.493 2.385 0.387 0.988 0.546 0.280 0.272 0.221 0.338 1.190 0.738 1.260 0.505 1.074 0.413 0.737

Table A3 - Brand (LOGIT results)

Variable	Ethnici Unweighted	ty only Weighted	Add socio de Unweighted	mographics Weighted	Add se Unweighted	rvices Weighted
Year (reference = 2012)	Onweighted	Weighted	Onweighted	Weighted	Onweighted	Weighted
2013	1.100	1.114	1.087	1.123	1.079	1.108
2014	1.151 ***	1.148 **	1.130 **	1.143 **	1.120 **	1.126 *
2015	1.139 **	1.127	1.095	1.102	1.088	1.084
2016	1.255 ***	1.214 ***	1.209 ***	1.182 **	1.210 ***	1.168 **
Asian Ethnicity (reference = non-Asian)						
Asian	1.661 ***	1.678 ***	1.588 ***	1.597 ***	1.563 ***	1.565 ***
Māori Ethnicity (reference = non-Māori)						
Māori	0.741 ***	0.768 ***	0.834 ***	0.861 *	0.855 **	0.893
Pacific Ethnicity (reference = non-Pacifi	,					
Pacific	0.805 **	0.825 *	0.902	0.912	0.878	0.895
Gender (reference = Male)						
Female			0.796 ***	0.774 ***	0.756 ***	0.742 ***
Disability (reference = No Disability)						
Has disability			0.867 **	0.844 ***	0.871 **	0.884 *
Age (reference = 45-54 years)						
18-24 years			1.090	1.049	1.021	0.968
25-34 years			1.020	1.006	0.984	0.971
35-44 years			1.059	1.038	1.023	1.007
55-64 years			1.062	1.101	1.073	1.131 **
65 years and over			1.613 ***	1.653 ***	1.381 ***	1.453 ***
Qualifications (reference = No Qualifica	tions)		4 40= *			4 400
School Certificate or NCEA level 1	or NOE A lovel C		1.125 *	1.145 *	1.111	1.126
Sixth Form Certificate, University Entrance	or NCEA level 2		1.079 1.393 ***	1.095	1.042	1.044 1.271 **
Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification			0.882 *	1.417 *** 0.878	1.305 *** 0.881 *	0.869 *
A certificate or diploma that does not requir	e a degree		1.051	1.074	1.016	1.021
A degree or postgraduate qualification	e a degree		1.662 ***	1.685 ***	1.552 ***	1.529 ***
Other qualification			1.225 *	1.180	1.195	1.124
Public Service Used In Last 12 Months (roforonco – Did r	not uso sorvico)				
Visited a national park	reference = Dia i	iot use service)			1.139 ***	1.159 ***
A hunting or fishing licence					1.018	1.102
National environmental issues or the Resou	rce Management	Act			0.768 ***	0.746 ***
Obtain, renewed, change or replaced a drive	-				1.007	1.038
Licensed or registered a vehicle					0.909 **	0.884 **
A state or state integrated (public) school the	nat vour child atter	nds or may atten	d in the future		1.071	1.100
A university, polytechnic or wananga about				ıre	1.004	1.061
Employment or retraining opportunities	, , , , , , , , , , , , , , , , , , , ,				0.953	0.931
Applying for or receiving a student loan or s	tudent allowance				1.066	1.106
A kindergarten that your child attends or ma		ture			1.066	1.052
ERO (Education Review Office) school or ea	arly childhood repo	orts			1.013	1.024
Received outpatient services from a public I	nospital (includes /	4 & E)			1.078 *	1.040
Stayed in a public hospital					1.105 *	1.169 **
Obtaining family services or counselling					1.034	1.035
Used an 0800 number for health information					1.073	1.059
Visited a public library					1.171 ***	1.144 ***
Your local council about rubbish or recyclin	g				0.950	0.960
Your local council about property rates					0.915 *	0.877 **
Your local council about road maintenance					0.807 ***	0.839 **
Your local council about a building permit					0.817 ***	0.857 *
A passport	inion				1.042	1.056
Registering a birth, death, marriage or civil The arrival process after landing at a New Z		al airport from Au	stralia		1.040 1.013	1.063 0.983
The arrival process after landing at a New Z				ıstralia	1.013	1.116 **
The Police (for a non-emergency situation)	calaria internationa	anport nom any	,oro oxoopi At	Jonana	0.950	0.944
Paying fines or getting information about fin	es				1.018	0.971
Emergency services i.e. 111					1.079	1.022
	h				0.851 *	0.878
A court, about a case you were involved wit					1.056	
A court, about a case you were involved wit The Community Services card						1.031
A court, about a case you were involved wit The Community Services card Accident compensation for injuries	•				0.893 **	1.031 0.886 **
The Community Services card		or unemployme	nt benefit		0.893 ** 0.909	
The Community Services card Accident compensation for injuries	lomestic purposes	or unemployme	nt benefit			0.886 **
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy	lomestic purposes	or unemployme	nt benefit		0.909 0.775 *** 0.900	0.886 ** 0.802 ** 0.834 * 0.854
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home	lomestic purposes lement	or unemployme	nt benefit		0.909 0.775 *** 0.900 1.049	0.886 ** 0.802 ** 0.834 * 0.854 0.994
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or	lomestic purposes lement	or unemployme	nt benefit		0.909 0.775 *** 0.900 1.049 1.038	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund on New Zealand Superannuation	lomestic purposes lement transfer				0.909 0.775 *** 0.900 1.049 1.038 1.196 ***	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 **
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund on New Zealand Superannuation Visited sorted.org.nz for information to help	lomestic purposes lement transfer manage your pers	onal finances or	retirement incom		0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 **	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 ** 1.190 **
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund on New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (si	lomestic purposes lement transfer manage your persuch as Working for	onal finances or Families), stude	retirement incom ent loan repayme		0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 **	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 ** 1.190 ** 0.953
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, or a housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (sr Contact with Statistics New Zealand for information to the property of the pro	lomestic purposes lement transfer manage your pers uch as Working for prmation or about t	onal finances or Families), stude	retirement incom ent loan repayme		0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 **	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 ** 1.190 ** 0.953 1.143 *
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, or a housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (stontact with Statistics New Zealand for infolmporting goods into New Zealand or custor	lomestic purposes lement transfer manage your pers uch as Working for irmation or about t ns duties	onal finances or Families), stude aking part in a su	retirement incom ent loan repaymei Invey		0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 ** 1.085 1.009	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 ** 1.190 ** 0.953 1.143 * 0.968
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund on New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (so Contact with Statistics New Zealand for informorphing goods into New Zealand or custor Registering a new company or filing an ann	lomestic purposes lement transfer manage your pers uch as Working for irmation or about t ins duties ual return for a reg	ional finances or Families), stude aking part in a su istered company	retirement incom ent loan repaymei Invey		0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 ** 1.085 1.009 0.973	0.886 ** 0.802 ** 0.834 ** 0.854 ** 0.994 ** 1.007 ** 1.182 ** 1.190 ** 0.953 ** 1.143 ** 0.968 ** 1.025
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund or New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (si Contact with Statistics New Zealand for info Importing goods into New Zealand or custor Registering a new company or filing an ann Registered a business entity for tax purpos	lomestic purposes lement transfer manage your pers uch as Working for irmation or about t ms duties ual return for a reg es or filed a tax re	onal finances or Families), stude aking part in a su istered company rum	retirement incom ent loan repaymei urvey	nts or KiwiSave	0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 ** 1.085 1.009 0.973 0.998	0.886 ** 0.802 ** 0.834 ** 0.854 0.994 1.007 1.182 ** 1.190 ** 0.953 1.143 * 0.968 1.025 0.993
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund on New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (sr Contact with Statistics New Zealand for infor Importing goods into New Zealand or custor Registering a new company or filing an ann Registered a business entity for tax purpos Number of observations	lomestic purposes lement transfer manage your persuch as Working for immation or about the module of the sum	ional finances or Families), stude aking part in a su istered company turn 14,202	retirement incoment loan repayment loan repayment unvey	nts or KiwiSave	0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 ** 1.085 1.009 0.973 0.998	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 ** 1.190 ** 0.953 1.143 * 0.968 1.025 0.993
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund on New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (so Contact with Statistics New Zealand for info Importing goods into New Zealand or custor Registering a new company or filing an ann Registered a business entity for tax purpos Number of observations R2 (Nagelkerke)	lomestic purposes lement transfer manage your persuch as Working for immation or about the most duties used return for a register of filed a tax reference of the control	conal finances or Families), stude aking part in a su istered company turn 14,202 0.015	retirement incoment loan repayment loan repayment urvey 14,202 0.037	14,202 0.039	0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 ** 1.085 1.009 0.973 0.998	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 ** 1.190 ** 0.963 1.143 * 0.968 1.025 0.993 14,202 0.055
The Community Services card Accident compensation for injuries Receiving a benefit such as the sickness, of A housing subsidy or accommodation supp A childcare subsidy Living in a Housing New Zealand home A rental property bond lodgement, refund on New Zealand Superannuation Visited sorted.org.nz for information to help Enquired about tax, receiving tax credits (sr Contact with Statistics New Zealand for infor Importing goods into New Zealand or custor Registering a new company or filing an ann Registered a business entity for tax purpos Number of observations	lomestic purposes lement transfer manage your persuch as Working for immation or about the module of the sum	ional finances or Families), stude aking part in a su istered company turn 14,202	retirement incoment loan repayment loan repayment unvey	nts or KiwiSave	0.909 0.775 *** 0.900 1.049 1.038 1.196 *** 1.163 ** 0.910 ** 1.085 1.009 0.973 0.998	0.886 ** 0.802 ** 0.834 * 0.854 0.994 1.007 1.182 ** 1.190 ** 0.953 1.143 * 0.968 1.025 0.993

¹⁷

Table A4 - Brand (Ordered LOGIT results)

Year (reference = 2012) 2013 2014 2015 2016 Asian Ethnicity (reference = non-Asian) Asian Māori Ethnicity (reference = non-Māori) Māori Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 25-34 years 35-49 years Age years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de A degree or postgraduate qualification		1.089 1.140 ** 1.122 * 1.180 ** 1.781 *** 0.821 ***	1.078 1.134 *** 1.102 * 1.169 *** 1.715 *** 0.870 ** 0.993 0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 ** 1.738 ***	1.096 1.130 ** 1.093 1.152 ** 1.723 *** 0.906 0.977 0.828 *** 0.813 *** 1.103 1.019 1.064	1.068 1.123 ** 1.092 1.176 *** 1.669 *** 0.916 0.977 0.812 *** 1.065 0.995 1.071	1.083 1.115 * 1.075 1.145 * 1.665 *** 0.964 0.955 0.794 *** 1.048 0.985 1.042
2014 2015 2016 Asian Ethnicity (reference = non-Asian) Asian Māori Ethnicity (reference = non-Māori) Māori Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification of A certificate or diploma that does not require a de	1.163 *** 1.154 ** 1.217 *** 1.747 *** 0.782 ***	1.140 ** 1.122 * 1.180 ** 1.781 *** 0.821 ***	1.134 *** 1.102 * 1.169 *** 1.715 *** 0.870 ** 0.993 0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	1.130 ** 1.093 1.152 ** 1.723 *** 0.906 0.977 0.828 *** 1.103 1.019 1.064	1.123 ** 1.092 1.176 *** 1.669 *** 0.916 0.977 0.812 *** 0.874 ** 1.065 0.995	1.115 * 1.075 1.145 * 1.665 *** 0.964 0.955 0.794 *** 1.048 0.985
2015 2016 Asian Ethnicity (reference = non-Asian) Asian Māori Ethnicity (reference = non-Māori) Māori Pacific Ethnicity (reference = non-Pacific) Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	1.154 ** 1.217 *** 1.747 *** 0.782 ***	1.122 * 1.180 ** 1.781 *** 0.821 ***	1.102 * 1.169 *** 1.715 *** 0.870 ** 0.993 0.855 *** 1.121 * 1.023 1.094 * 1.127 **	1.093 1.152 *** 1.723 *** 0.906 0.977 0.828 *** 0.813 *** 1.103 1.019 1.064	1.092 1.176 *** 1.669 *** 0.916 0.977 0.812 *** 0.874 ** 1.065 0.995	1.075 1.145 *** 1.665 *** 0.964 0.955 0.794 *** 0.867 ** 1.048 0.985
Asian Ethnicity (reference = non-Asian) Asian Māori Ethnicity (reference = non-Māori) Māori Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	1.217 *** 1.747 *** 0.782 *** 0.893	1.180 ** 1.781 *** 0.821 ***	1.169 *** 1.715 *** 0.870 ** 0.993 0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	1.152 *** 1.723 *** 0.906 0.977 0.828 *** 0.813 *** 1.103 1.019 1.064	1.176 *** 1.669 *** 0.916 0.977 0.812 *** 0.874 ** 1.065 0.995	1.145 * 1.665 *** 0.964 0.955 0.794 *** 0.867 ** 1.048 0.985
Asian Ethnicity (reference = non-Asian) Asian Māori Ethnicity (reference = non-Māori) Māori Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	1.747 *** 0.782 *** 0.893	1.781 *** 0.821 ***	1.715 *** 0.870 ** 0.993 0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	1.723 *** 0.906 0.977 0.828 *** 0.813 *** 1.103 1.019 1.064	1.669 *** 0.916 0.977 0.812 *** 0.874 ** 1.065 0.995	1.665 *** 0.964 0.955 0.794 *** 0.867 ** 1.048 0.985
Asian Māori Ethnicity (reference = non-Māori) Māori Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Biursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	0.782 ***	0.821 ***	0.870 *** 0.993 0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	0.906 0.977 0.828 *** 0.813 *** 1.103 1.019 1.064	0.916 0.977 0.812 *** 0.874 ** 1.065 0.995	0.964 0.955 0.794 *** 0.867 ** 1.048 0.985
Māori Ethnicity (reference = non-Māori) Māori Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 25-34 years 25-34 years 25-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	0.782 ***	0.821 ***	0.870 *** 0.993 0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	0.906 0.977 0.828 *** 0.813 *** 1.103 1.019 1.064	0.916 0.977 0.812 *** 0.874 ** 1.065 0.995	0.964 0.955 0.794 *** 0.867 ** 1.048 0.985
Māori Pacific Ethnicity (reference = non-Pacific) Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	0.893		0.993 0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	0.977 0.828 *** 0.813 *** 1.103 1.019 1.064	0.977 0.812 *** 0.874 ** 1.065 0.995	0.955 0.794 *** 0.867 ** 1.048 0.985
Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 25-34 years 25-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	'	0.899	0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	0.828 *** 0.813 *** 1.103 1.019 1.064	0.812 *** 0.874 ** 1.065 0.995	0.794 *** 0.867 ** 1.048 0.985
Pacific Gender (reference = Male) Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 25-34 years 25-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	'	0.899	0.855 *** 0.850 *** 1.121 * 1.023 1.094 * 1.127 **	0.828 *** 0.813 *** 1.103 1.019 1.064	0.812 *** 0.874 ** 1.065 0.995	0.794 *** 0.867 ** 1.048 0.985
Female Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification or Certificate or NCI and or 4 A Trade Qualification or Certificate or NCI and or 4 A Trade Qualification or Certificate or NCI and or 4 A Certificate or diploma that does not require a december 2.			0.850 *** 1.121 * 1.023 1.094 * 1.127 **	0.813 *** 1.103 1.019 1.064	0.874 ** 1.065 0.995	0.867 ** 1.048 0.985
Disability (reference = No Disability) Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			0.850 *** 1.121 * 1.023 1.094 * 1.127 **	0.813 *** 1.103 1.019 1.064	0.874 ** 1.065 0.995	0.867 ** 1.048 0.985
Has disability Age (reference = 45-54 years) 18-24 years 25-34 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1.121 * 1.023 1.094 * 1.127 **	1.103 1.019 1.064	1.065 0.995	1.048 0.985
Age (reference = 45-54 years) 18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1.121 * 1.023 1.094 * 1.127 **	1.103 1.019 1.064	1.065 0.995	1.048 0.985
18-24 years 25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1.023 1.094 * 1.127 **	1.019 1.064	0.995	0.985
25-34 years 35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1.023 1.094 * 1.127 **	1.019 1.064	0.995	0.985
35-44 years 55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1.094 * 1.127 **	1.064		
55-64 years 65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1.127 **			
65 years and over Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de				1.158 ***	1.119 **	1.163 **
Qualifications (reference = No Qualifications) School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1./30	1.770 ***	1.423 ***	1.469 ***
School Certificate or NCEA level 1 Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de						
Sixth Form Certificate, University Entrance or NCI Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de	EA level 2		1.147 **	1.173 **	1.144 **	1.170 **
Bursary, Scholarship, NCEA level 3 or 4 A Trade Qualification A certificate or diploma that does not require a de			1.067	1.058	1.044	1.021
A Trade Qualification A certificate or diploma that does not require a de			1.302 ***	1.337 ***	1.253 **	1.250 **
·			0.808 ***	0.793 ***	0.814 ***	0.793 ***
A degree or postgraduate qualification	gree		1.022	1.038	1.007	1.008
0 1 0 1			1.482 ***	1.499 ***	1.416 ***	1.405 ***
Other qualification			1.203 *	1.162	1.180	1.122
Public Service Used In Last 12 Months (refere	nce = Did not i	use service)				
Visited a national park					1.116 ***	1.136 ***
A hunting or fishing licence	onogomont A of				1.046 0.728 ***	1.107 0.714 ***
National environmental issues or the Resource Ma Obtain, renewed, change or replaced a driver licer	•				1.022	1.061
Licensed or registered a vehicle	100				0.909 **	0.888 ***
A state or state integrated (public) school that you	ur child attends	or may attend in	the future		1.033	1.056
A university, polytechnic or wananga about a cour	rse you are atter	nding or may atte	end in the future		1.014	1.058
Employment or retraining opportunities					0.942	0.922
Applying for or receiving a student loan or student					0.948	0.949
A kindergarten that your child attends or may atte					1.054	1.057
ERO (Education Review Office) school or early ch Received outpatient services from a public hospita	•	E)			1.035 1.064 *	1.036 1.028
Received outpatient services from a public nospita Stayed in a public hospital	ai (includes A &	-)			1.175 ***	1.026
Obtaining family services or counselling					0.943	0.941
Used an 0800 number for health information					1.019	0.996
Visited a public library					1.169 ***	1.149 ***
Your local council about rubbish or recycling					0.971	0.967
Your local council about property rates					0.896 **	0.877 **
Your local council about road maintenance					0.791 ***	0.818 ***
Your local council about a building permit A passport					0.797 *** 1.056	0.825 *** 1.065
Registering a birth, death, marriage or civil union					1.007	1.025
The arrival process after landing at a New Zealand	l international air	port from Austra	lia		1.004	0.978
The arrival process after landing at a New Zealand	l international air	rport from anywh	ere except Austr	alia	1.115 ***	1.131 ***
The Police (for a non-emergency situation)					0.916 **	0.914 *
Paying fines or getting information about fines					1.013	0.979
Emergency services i.e. 111					1.068	1.021
A court, about a case you were involved with The Community Services card					0.763 *** 1.111 **	0.767 *** 1.088
Accident compensation for injuries					0.887 ***	0.878 ***
Receiving a benefit such as the sickness, domest	tic purposes or u	unemployment b	enefit		0.836 **	0.744 ***
A housing subsidy or accommodation supplement					0.732 ***	0.813 **
A childcare subsidy					0.885	0.865
Living in a Housing New Zealand home					1.107	1.091
A rental property bond lodgement, refund or transf	fer				1.038	1.002
New Zealand Superannuation Visited sorted.org.nz for information to help mana	de vour persons	l finances or ret	rement income		1.193 ***	1.191 *** 1.115
visited sorted.org.nz for information to neith mana, Enquired about tax, receiving tax credits (such as				or KiwiSaver	1.082 0.931 *	0.955
Contact with Statistics New Zealand for information		**		ouvoi	1.112 *	1.156 **
Importing goods into New Zealand or customs dut		5 ,	•		0.978	0.940
Registering a new company or filing an annual ret		red company			0.920	0.971
Registered a business entity for tax purposes or fi	iled a tax return				0.991	0.995
Number of observations	14,202	14,202	14,202	14,202	14,202	14,202
R2 (Nagelkerke)	0.012	05.00=	0.033	05.45	0.051	0
AIC C (Area under BOC aurus)	35,334	35,385	35,078	35,134	34,922	34,953
C (Area under ROC curve) *** means statistically significant at the 1% level,	0.541	the 5% lovel * a	0.581	10% level	0.600	

Table A5 - Differences in service usage by ethnicity, all years

This table is colour coded. Significant changes at the 5% level, compared to those of not that ethnicity, are shaded. Significant negative differences are in red and significant positive differences are in green.

Question Asked	Asian		Māori		European		Pacific	
Visited a national park	45.7%	8.5%	31.2%	-7.9%	38.2%	0.2%	33.3%	-5.1%
A hunting or fishing licence	1.5%	-6.5%	5.7%	-1.7%	8.7%	4.8%	2.4%	-5.1%
National environmental issues or the Resource Management Act	3.2%	-2.1%	5.3%	0.3%	5.3%	0.9%	3.6%	-1.5%
Obtain, renewed, change or replaced a driver licence	28.6%	5.3%	26.3%	2.7%	22.3%	-5.2%	25.9%	2.1%
Licensed or registered a vehicle	51.2%	-21.1%	70.5%	0.6%	73.9%	12.9%	58.5%	-12.2%
A state or state integrated (public) school that your child attends or may attend in the future	23.4%	1.3%	27.5%	6.0%	20.9%	-4.4%	29.9%	8.2%
A university, polytechnic or wananga about a course you are attending or may attend in the future	26.4%	7.1%	30.2%	11.5%	18.3%	-5.9%	24.7%	4.9%
Employment or retraining opportunities	18.3%	4.1%	24.0%	10.6%	12.1%	-8.4%	27.1%	13.2%
Applying for or receiving a student loan or student allowance	19.0%	8.8%	13.3%	2.3%	9.6%	-5.3%	15.6%	4.6%
A kindergarten, day-care, crèche, preschool, home-based service, playcentre, Kōhanga Reo, Aoga Amata, Puna Reo or playgroup etc., that your child attends or may attend in the future	13.8%	2.1%	16.9%	5.6%	10.1%	-6.1%	23.5%	12.3%
ERO (Education Review Office) school or early childhood reports	6.8%	-0.8%	10.6%	3.5%	7.2%	-0.9%	9.6%	2.2%
Received outpatient services from a public hospital (includes A & E)	26.4%	-9.6%	41.3%	7.3%	35.6%	2.2%	28.9%	-6.4%
Stayed in a public hospital	13.4%	-2.7%	20.4%	5.3%	14.9%	-2.8%	19.8%	4.3%
Obtaining family services or counselling	4.0%	-3.1%	13.4%	7.6%	6.2%	-1.8%	9.7%	3.2%
Used an 0800 number for health information	11.9%	-0.9%	19.7%	7.9%	11.7%	-3.3%	19.7%	7.4%
Visited a public library	55.6%	1.7%	55.9%	2.1%	53.9%	-0.5%	50.8%	-3.5%
Your local council about rubbish or recycling (excluding the actual collection of rubbish and recycling from your household each week)	23.5%	3.4%	24.9%	5.0%	19.1%	-4.7%	27.1%	7.0%
Your local council about property rates	19.9%	4.0%	15.2%	-1.3%	16.0%	-1.2%	14.1%	-2.4%
Your local council about road maintenance	12.2%	3.3%	9.6%	0.4%	8.6%	-2.3%	11.0%	1.8%
Your local council about a building permit	4.9%	-2.6%	5.1%	-2.4%	8.1%	2.9%	4.5%	-2.9%
A passport	26.3%	4.1%	22.4%	-0.3%	21.6%	-3.5%	31.0%	8.8%
Registering a birth, death, marriage or civil union	7.2%	-1.0%	11.6%	4.0%	7.0%	-3.7%	15.8%	8.2%

Question Asked	Asian		Māori		European		Pacific	
The arrival process after landing at a New Zealand international airport from Australia	44.6%	8.9%	24.2%	-14.2%	36.4%	-1.0%	40.3%	3.8%
The arrival process after landing at a New Zealand international airport from anywhere except Australia	21.5%	-3.8%	18.5%	-7.1%	25.9%	3.5%	25.3%	0.5%
The Police (for a non-emergency situation)	15.0%	-6.9%	27.7%	7.5%	21.6%	1.7%	18.7%	-2.6%
Paying fines or getting information about fines	21.0%	1.8%	27.9%	9.6%	17.2%	-7.2%	32.3%	13.6%
Emergency services i.e. 111	10.0%	-2.4%	15.1%	3.3%	11.5%	-2.1%	18.7%	6.9%
A court, about a case you were involved with	4.1%	-1.1%	10.6%	6.3%	4.2%	-2.9%	10.0%	5.2%
The Community Services card	17.6%	1.2%	26.4%	11.2%	14.3%	-7.3%	25.7%	9.7%
Accident compensation for injuries	9.5%	-10.6%	20.8%	2.2%	20.8%	6.4%	13.8%	-5.4%
Receiving a benefit such as Jobseeker Support, Sole Parent Support or a Supported Living Payment	8.3%	-1.8%	22.1%	13.8%	7.9%	-6.5%	21.4%	12.2%
A housing subsidy or accommodation supplement	9.0%	1.9%	15.8%	9.6%	5.6%	-5.8%	14.8%	7.9%
A childcare subsidy	6.3%	1.9%	8.7%	4.6%	3.7%	-3.0%	7.3%	2.8%
Living in a Housing New Zealand home	4.7%	1.2%	8.2%	5.2%	1.4%	-7.3%	20.4%	17.8%
A rental property bond lodgement, refund or transfer	10.2%	0.4%	11.9%	2.4%	9.6%	-0.8%	10.8%	1.0%
New Zealand Superannuation	6.2%	-11.3%	12.4%	-4.4%	18.0%	5.8%	13.4%	-3.0%
Visited sorted.org.nz for information to help manage your personal finances or planning for retirement	7.0%	-1.9%	9.5%	1.0%	8.9%	0.9%	10.6%	2.1%
Enquired about tax, receiving tax credits (such as Working for Families), student loan repayments or KiwiSaver	27.3%	2.2%	32.4%	8.0%	23.8%	-5.0%	38.5%	14.0%
Contact with Statistics New Zealand for information or about taking part in a survey	8.3%	-0.2%	10.5%	2.3%	7.9%	-1.7%	15.2%	7.2%
Importing goods into New Zealand or customs duties	7.0%	0.5%	3.7%	-3.2%	6.9%	1.2%	3.7%	-3.0%
Registering a new company or filing an annual return for a registered company	10.1%	1.5%	5.8%	-3.4%	9.3%	1.7%	4.8%	-4.2%
Registered a business entity for tax purposes or filed a tax return	9.8%	-0.9%	8.2%	-2.7%	11.0%	1.3%	8.4%	-2.3%