instinct and reason

Energy Rating Icon Research

March 2018

For the Department of the Environment and Energy

www.instinctandreason.com

Prepared for	Department of the Environment and Energy
Client contact	Niki Jackson and Gary James
Prepared by	Instinct and Reason
Research consultants	Rob Mercer, Fiona McLean
Date	March 2018
Reference #	J2605

Contents

1

Executive summary

Executive Summary - background

The reason for the research

The legislation which compels retailers to display the energy rating label on appliances in-store applies only to physical products and not to products displayed for sale online. Consequently, consumers are less likely to see energy rating information when purchasing or researching a potential purchase online.

Research was undertaken to understand: if people exposed to energy rating information in an online environment choose more energy efficient products than those who are not; if having the information as an icon is more effective than text; at what point in the online purchase journey energy rating information has the greatest effect on the energy efficiency of the product ultimately chosen; and whether the simplified version of the Energy Rating Label (the Energy Rating Icon) is understood.

How the research was undertaken?

An online survey was conducted within Australia in February 2018 with a sample of 4,818 participants. It involved both a virtual online shopping experiment that mimicked the normal shortlisting and final choice purchasing stages, and a questionnaire. The experiment and questionnaire were cognitively tested before the survey was conducted. Participants in the survey were randomly allocated equally to one of six groups.

Sample groups	Consideration stage	Choice stage
1 (control group)	No energy rating information	No energy rating information
2	No energy rating information	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246
3	No energy rating information	Energy Rating Icon 
4	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246
5	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246	Energy Rating Icon 
6	Energy Rating Icon 	Energy Rating Icon 

Executive Summary – key findings

instinct and reason

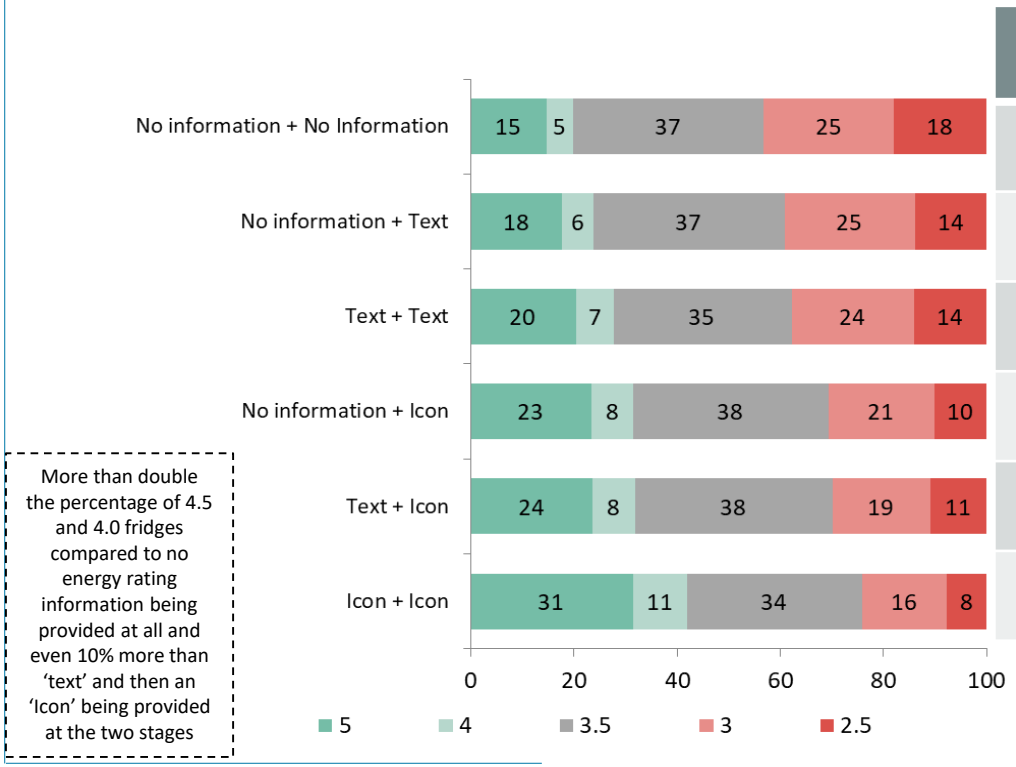
1

People who were exposed to energy rating information chose more energy efficient products

Looking at the consideration (shortlisting) and choice stages separately

Nearly one third (31%) of participants exposed to the icon at the consideration stage selected fridges rated four stars or more with an average rating of 3.58. When looking at the choice stage in isolation, 35% of participants exposed to the icon at the choice stage selected fridges rated four stars or more with an average rating of 3.62. These results were both statistically higher than if no information or text was shown.

The combined impact at both the consideration and choice stages is summarised in the figure below.



Mean rating	Statistically significant differences
3.37	Lower energy rating than all except when only in text at the choice stage
3.44	Essentially the same as providing no information at either stage
3.48	Higher than only providing text at the choice stage but lower than an Icon at the choice stage or at both stages
3.57	Higher than providing no Icon at the choice stage. An Icon at the choice stage has the same impact whether no energy rating information is provided or it is in text at the consideration stage
3.57	
3.71	Higher energy rating than all other combinations

More than double the percentage of 4.5 and 4.0 fridges compared to no energy rating information being provided at all and even 10% more than 'text' and then an 'Icon' being provided at the two stages

For all 56 fridges in the online store for the experiment the mean rating was 3.39 (based on 13% at 4.5 and 11% at 4.0 for a total of 24% at those ratings — plus 36% at 3.5, 25% at 3.0 and 16% at 2.5 — similar to the distribution found in the online market

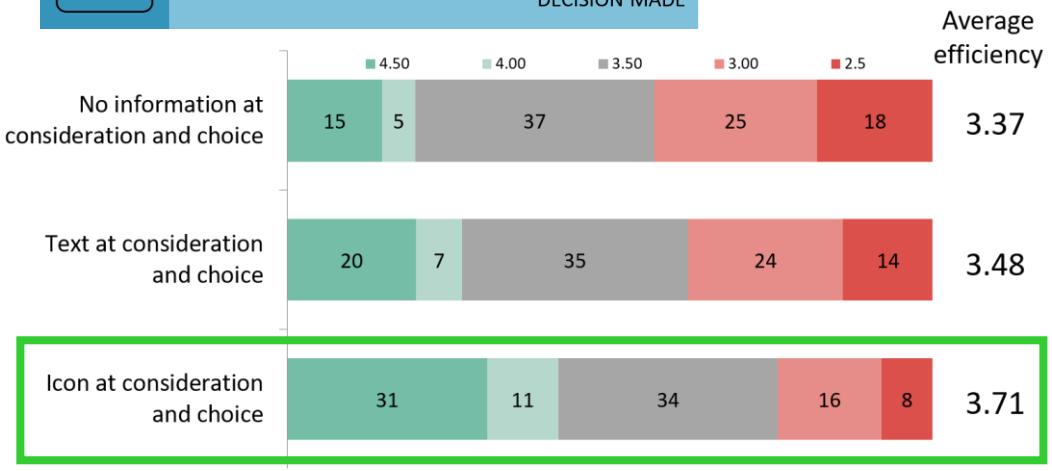
Executive Summary – key findings

instinct and reason

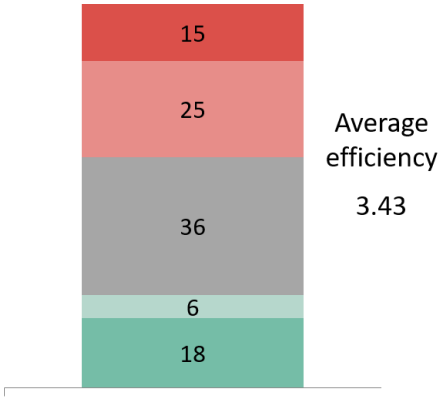
2 **The Energy Rating Icon was more effective than text only AND especially when shown at both stages**

In addition to the results shown on the previous page, the figure below further illustrates the positive impact of an icon in the decision-making process and on the energy efficiency of the product ultimately chosen compared to the information provided in text only.

PRESENCE OF **A LABEL** AT CONSIDERATION AND CHOICE **HAS THE GREATEST IMPACT** ON THE DECISION MADE



MORE THAN HAVING **TEXT** OR **NO INFORMATION AT BOTH STAGES**



AT THE VERY LEAST, PROVIDING **AN ICON** AT THE CHOICE STAGE **WILL HAVE A POSITIVE IMPACT** ON THE DECISION MADE

Executive Summary – key findings

instinct and reason

3 **The simplified version of the Energy Rating Label (the Energy Rating Icon) was generally understood**

The survey's cognitive testing results suggested that nearly everyone was familiar with the Energy Rating Label used in bricks and mortar stores.

87% have seen the bricks and mortar store label before

48% say they will visit the website after seeing it on a label

It was also found that while most people did not fully understand the technical intricacies of the Energy Rating Icon for different types of fridges, the concept of more stars equals a more efficient fridge was well understood with its three visual indicators (the stars, the number and the red fill).

What the Icon is telling them	Total %
Energy efficiency of product/ used to compare/Running cost	35
Medium energy saving/ mid range with normal use	22
The higher the stars the more energy efficient	20
It has a 3 1/2 star rating [out of 5]	12
It has a 3 1/2 star rating [out of 6]	6
Above standard/fairly energy efficient	9
Not very energy efficient /would not consider	8
Cost of running/more stars is cheaper	4
It has an excellent energy rating	2
Other + Unsure	7

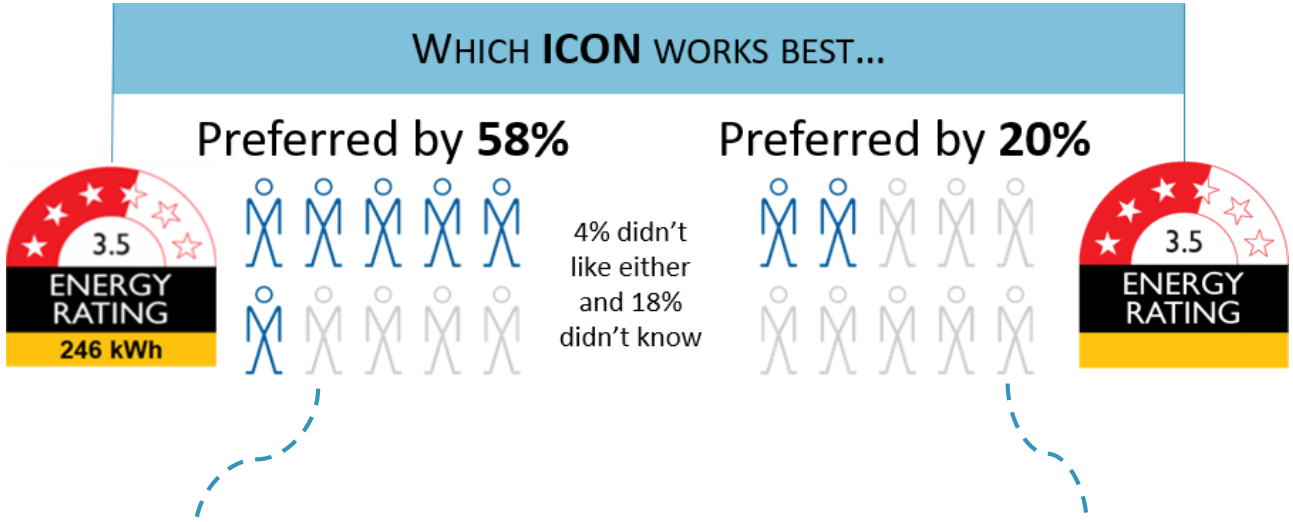
Impact	%
Can easily understand what the image is telling me	84%
Image would help pick an energy efficient fridge for my home	88%
Would use this image to compare refrigerators being considered	88%
Reminds me to consider energy efficiency when deciding what to buy	89%

Executive Summary – key findings

4

There was consumer preference for kWh to be included in the Energy Rating Icon

Although few understood kWh, those who did used it to calculate the energy cost. Others valued its inclusion as another objective comparison between products because they understood the lower the kWh the better. This was confirmed in the survey results summarised below.



Why did you choose with kWh?	Total %
More information available to help decision-making	66
Energy usage/allows comparison/calculating running costs	38
Don't know what the numbers mean, need more information	4
Easy to understand/ Clear information/looks good	3
Confusing - too much information/unnecessary	1
Don't know/ other	3

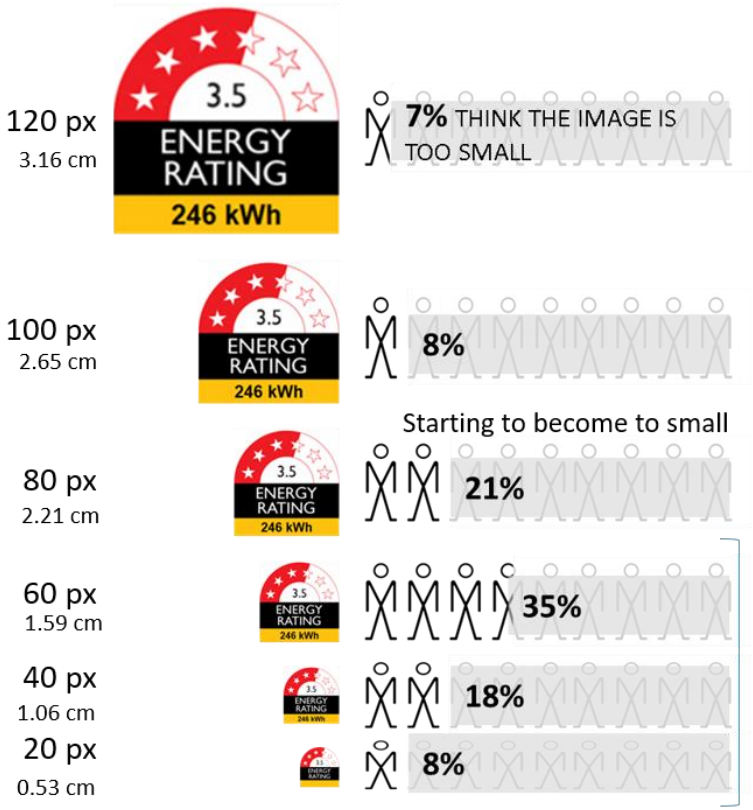
Why did you choose without kWh?	Total %
Enough information available to help decision-making	10
Energy efficiency rating /information allows comparison	6
Don't know what the numbers mean, need more information	43
Easy to understand/ Simpler/ Clear information/looks good	40
Confusing/unnecessary	13
Don't know/ other	4

Executive Summary – key findings

5 **A minimum size for the icon of 100px (2.65 cm) would be preferable and particularly no smaller than 80px (2.21 cm) and it needs to be at the top of the page preferably close to the fridge and/or price and key product specifications.**

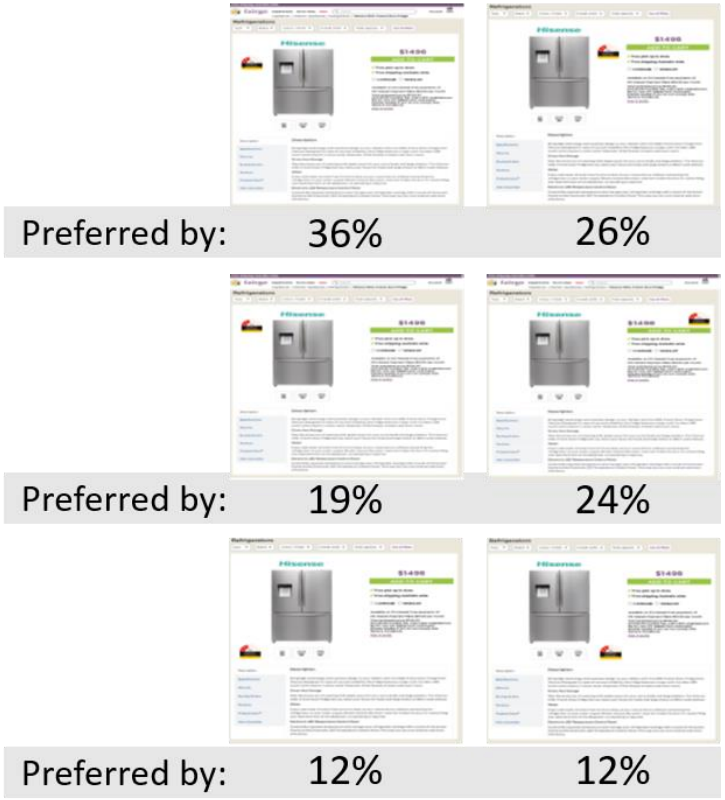
SIZE

Starts to be too small on the screen at 80px (2.21 cm) and becomes too small for a majority at 60px (1.59 cm) or smaller



POSITION

The icon needs to be placed on the top of the page preferably close to the fridge and/or price and key product specifications



Executive Summary – some other findings

6 **There was a positive relationship between higher education and income and the selection of fridges with higher energy ratings, but a negative relationship to males and younger consumers (21-34 years)**
An analysis of the fridge shortlisting and final purchasing choices in the experiment against attitudinal and behavioural responses from the survey indicated a positive relationship between higher education and income and fridges with higher energy ratings, and a negative relationship in relation to males and younger consumers (21-34 years).

7 **The icon did result on average in higher priced fridges being shortlisted and ultimately chosen**
Despite an analysis of the 145 fridges found in the Australian online market and the menu of 56 included in the online experiment showing no direct or a weak negative correlation respectively between the price of fridges and their star rating, it was identified that when the Energy Rating Icon was shown to participants it did result on average in higher priced fridges being shortlisted and ultimately chosen.

8 **Only 10% of research participants chose to filter by energy rating and only 1% by kWh**
Almost one in five (19%) participants used the different filters provided in the experiment's virtual online store. One in ten participants filtered by energy rating and 1% by kWh, compared to 19% who filtered by price range, 18% by volume, 16% by colour and 8% by brand.

9 **With the energy rating of household electrical appliances, cost savings appeared to be a stronger driver than the environment and the energy rating was just one of the considerations in the purchase decision**
There was not a strong correlation between the energy rating of the fridges shortlisted and chosen and the sustainable intentions and behaviour of participants. Energy efficiency was rated as being the third most important factor when choosing a fridge or a washing machine, but fourth when buying a television.

Executive Summary – possible future investigation

Potential future research to build in the findings from this study include:

- Testing if the same effect occurs with other appliances, where there are different levels of engagement and key buying factors (e.g. washing machine or dryer or dishwasher or television).
- Exploring and testing whether a simple icon without the kWh could be more effective in the online environment despite the findings of this study (given some other research has indicated that the simpler and less cluttered the icon the better and with questions around consumer understanding and use of kWh); or if the added information of kWh or other features (e.g. in the more comprehensive bricks and mortar Energy Rating Label or online calculators and comparisons) would improve the Icon value and impact online.
- With the significant and continuing growth in households with their own energy generation, specifically investigating dynamics and if other drivers, attitudes and behaviours exist towards energy efficiency and household electrical appliances in these situations.
- Testing to confirm if there is a relationship between the presence of the icon and higher priced fridges on average being shortlisted and ultimately chosen — and exploring whether an online store that displays the Energy Rating Icon with its products is preferred by consumers over one that does not.

2

Background, objectives and research methodology

Background and research objectives

Reason for the research

The Australian Government Department of the Environment and Energy commissioned research to understand how the display of energy rating information in the online retail environment influences the average energy efficiency choices of certain appliances purchased online. The findings of the research will contribute to ongoing consideration of whether appliances offered for sale online should be required to display energy rating information and if so, in what form.

Currently consumers shopping in traditional 'bricks and mortar' stores can see the Energy Rating Label on appliances, and this prompts them to factor energy efficiency into their purchasing decisions. However, the legislation which compels retailers to display the label in-store, the *Greenhouse and Energy Minimum Standards Act 2012* (GEMS), applies only to physical products and not to 'virtual products' displayed for sale online. Consequently, consumers are much less likely to see energy rating information when purchasing or researching a potential purchase online and may not factor energy efficiency into their purchase decisions to the same extent as when shopping offline.

Research objectives

The research focused on the online retail environment to understand:

1. if people exposed to energy rating information choose more energy efficient products than those who are not;
2. if energy rating information in the form of an image (the icon) is more effective than text/words;
3. at what point in the online purchase journey energy rating information has the biggest effect on the energy efficiency of the product ultimately chosen (i.e. at the shortlisting or at the final choice stage);
4. whether the simplified version of the Energy Rating Label (the Energy Rating Icon) is understood.

Research methodology

1

Phase 1 – Inception and agreed project plan

A face to face meeting was held in November 2017 with representatives of the Australian Government Department of the Environment and Energy (the department) to confirm the background and purpose of the research, share and discuss relevant existing research and literature, and agree on the research design, timings, project management and communication.

2

Phase 2 – Review of existing literature and draft the survey

Relevant existing literature was reviewed including the published results from a similar study completed in Europe[1] and also other relevant research specific to the Australian context. The literature indicated there are two key stages people use when making online purchasing decisions for major household appliances—the 'consideration' stage where people narrow down the product alternatives to a few options followed by the second and final purchasing stage where they make their choice.

3

Phase 3 – Draft choice experiment and questionnaire design for a national survey

The knowledge from the literature review, the discussions with department representatives and past experience in this area was used to draft a two part survey involving a virtual online shopping experiment and a questionnaire. The experiment was included first to ensure participants were not exposed to or biased in their responses to later questions relating to energy ratings and the icon. The experiment asked participants to imagine they were looking to buy a bottom mount refrigerator (i.e. with a freezer compartment at the bottom) for their home in an online store. The online store was designed to mimic those used in 'real life' and the two key stages people use when making online purchasing decisions for major household appliances—the 'consideration' stage and 'choice' stage.

1. Study on the effects on consumer behaviour of online sustainability information displays, by Ecorys, Tilburg University, GFK for the European Commission, 2012

Research methodology - continued

4

Phase 4 – Cognitive testing of the draft survey and confirming the online decision-making process

While it was believed the two stage online decision making process will be similar to that uncovered in Europe[1], it was essential to explore and confirm this to ensure a similar research approach would work in the Australian context and would effectively take into account specific study requirements and aspects including the design and understanding of the Australian Energy Rating Icon.

Ten 45–60 minute cognitive testing interviews were conducted with individuals in Canberra (ACT) and Sydney and Newcastle (NSW). Participants were aged 21–60 years and had used the internet to research, shortlist or purchase a refrigerator, freezer, washing machine, dryer, dishwasher or television within the last 3 months OR were thinking about purchasing one of these items within the next 3 months. The sample represented a mixture of life stages: singles, couples without children, younger families (most children under 16 years), older families (most children over 16 years) and empty nesters. A range of income levels was also represented.

A report from the cognitive interviews is provided at Appendix I. The testing confirmed the two stage online decision-making process and that the experiment and questionnaire were fit for purpose with some minor adjustments identified.

5

Phase 5 – Final survey design

Results from the cognitive testing were presented to the representatives of the department and the design of the experiment and questionnaire was then finalised. The first component of the survey (Section A) included screening questions to ensure they were people who had used the internet within the previous three months, aged between 21 and 61 years of age, residents or citizens of Australia, and key decision makers in purchasing electrical appliances in their household. It also included questions to monitor the profile of the sample groups to ensure there were no major skews between them. Appendix II provides a copy the questions in this section.

1. Study on the effects on consumer behaviour of online sustainability information displays, by Ecorys, Tilburg University, GFK for the European Commission, 2012

Research methodology - continued

Phase 5 – Final survey design (continued)

The experiment was conducted immediately after the screening and sample monitoring questions to ensure participants were not exposed to or biased in their responses to later questions relating to energy ratings and the icon. The online store was designed to mimic those used in 'real life' and the two key stages people use when making online purchasing decisions for major household appliances—the 'consideration' stage where people narrow down the product alternatives to a few options, followed by the second and final purchasing stage where they make their choice. The online store was built with all the common features, including filters to sort by price, volume, brand, colour, energy rating and kWh.

At the consideration stage the online store included 56 fridges with an appropriate mix of brands, features, energy ratings, prices, popularity and reviews indicated. The fridges offered were drawn from 145 fridges found in the Australian online market during December 2017 to January 2018. The aim was to provide in the experiment a sample of fridges sufficiently similar to the mix found in 'real life' online stores and realistic enough to enable participants to make choices. Critically, the sample of fridges used in the experiment was the same for all sample groups. Appendix III provides the profile of the fridges found in the Australian online market and the profile of the fridges used in the experiment. It is worth noting that 72% of fridges found in the Australian online market had an energy rating of 3.0 or 3.5 (with overall average rating of 3.34) and no strong correlation between energy rating and the price indicated. The fridges selected for the experiment had a similar profile of 61% being 3.0 or 3.5 stars and an overall average rating of 3.39 (while balancing other factors like brand and price and top seller distribution), along with the same lack of correlation between the star rating and price of the fridges.

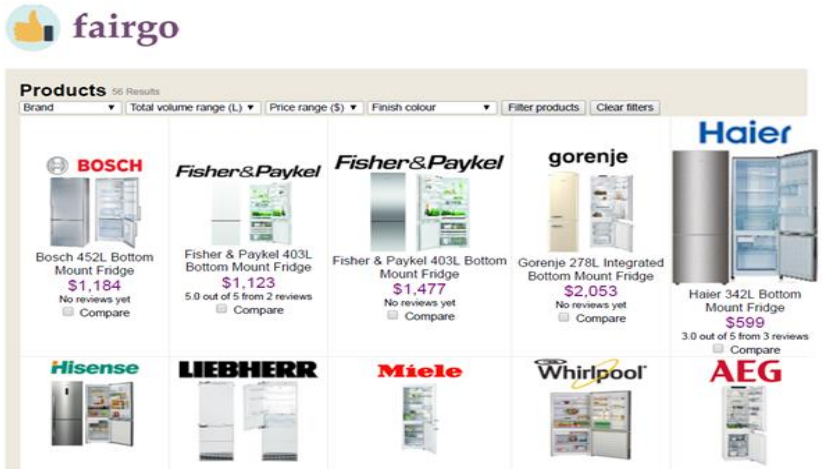
Actual fridges from the market were used so that the energy rating of the fridges was known to the research team for the analysis, even when sample groups of participants were presented with no energy rating information with the fridges in the online store for the experiment.

Research methodology - continued

Phase 5 – Final survey design (continued)

In Section B of the survey participants were asked to imagine they were looking to buy a bottom mount fridge for their home (i.e. with a freezer compartment at the bottom) and were visiting an online store. It was explained to participants that online stores often have so many products on offer that not all product information can be shown at once and instead they allow you to choose which products you'd like to read more information about. It further explained that the online store showed a range of bottom mount fridges that are available in the market and to simplify the task they were asked imagine that these are the only products available. But before completing the first stage of the experiment participants were asked if they were looking to buy a bottom mount fridge, which of the brands they would: (1) consider; and (2) prefer. This was to further check that the key brands people tend to include in their consideration set were not missing from the experiment and to enable analysis on any impact of brand.

Participants were then asked to shortlist between two and five fridges that they would seriously consider and that they would like to read more about by clicking on each one they were interested in. It was explained that the online store shows the products and information in the same way as other online stores and they could use filters by brand, size, price range and finish colour if they wished to do so.



Appendix IV provides a copy of the questions in this Section B of the survey.

Research methodology - continued

Phase 5 – Final survey design (continued)

After participants made their shortlist at the consideration stage in Section B of the survey, participants were taken back to the online store. On the screen in Section C for the choice stage, participants were presented the individual product pages for the products they had shortlisted with the same more detailed information they would see on other 'real life' online stores. They were then asked to indicate which one of the shortlisted products they would choose if you had to select one for your household today.

Once participants had made their final choice of the fridge they would buy for their household if they had to choose one on that day, they were asked a series of questions that included:

- how difficult or easy they found initially choosing fridges they would seriously consider and would like to read more about
- how difficult or easy they found making the final choice of the fridge they would buy for their household
- how difficult or easy it was to understand the information in the online store
- whether they would be most likely to actually buy the fridge in an online store or in a physical 'bricks and mortar' store and why they be more likely to do this in an online store or physical 'bricks and mortar' store.
- which device they would most likely use if they were to actually research or buy a fridge online.

Appendix V provides a copy of the questions in this Section C of the survey.

Research methodology - continued

Phase 5 – Final survey design (continued)

Section D of the survey then explored participants' understanding of the Energy Rating Icon; the effect of the addition of kilowatt hours (kWh) information to the icon; and if there was a preference for the icon with or without the addition of kWh. The size and location of the icon required to be effective on the webpage was also explored, along with participants' awareness of the Energy Rating Label used in bricks and mortar stores.

The last part of the survey (Section E) explored participants' online purchasing behaviours; buying factors and attitudes to household electrical appliances and energy efficiency; whether they have a home solar energy system; their attitudes towards the environment; and their disposition to environmentally friendly behaviours.

Appendix VI provides a copy of the questions in this Section D and E of the survey.

6

Phase 6 – Conduct of the survey and sampling

An online survey using a high quality ISO 20252 accredited research-only panel was determined to be an appropriate and cost effective methodology given the project is exploring the online shopping environment, the high level of internet access and use in Australia now (at over 90%) and the proven and extensive experience in gaining robust and highly representative samples across life stages, locations and socio-economic status.

The impact of having energy rating information present (or not) at the consideration and/or choice stages, along with the way the information was presented (e.g. as text or as an icon), was tested with participants across six groups. The following table and information describes the sampling used to ensure the experiment was robust and sensitive.

Research methodology - continued

Phase 6 – Conduct of the survey and sampling (continued)

The online survey was conducted across Australia in February 2018 with a sample size of 4,818 participants (giving a margin of error rate of +/- 1.41%). Participants were randomly allocated to one of six equal-sized sample groups of just over 800 (giving a margin of error rate of +/- 3.46%) as summarised below.

Sample groups	Consideration stage	Choice stage
1 (control group)	No energy rating information	No energy rating information
2	No energy rating information	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246
3	No energy rating information	Energy Rating Icon 
4	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246
5	Energy rating in text e.g. Energy rating: 3.5 stars out of 6, 246	Energy Rating Icon 
6	Energy Rating Icon 	Energy Rating Icon 

In order to be confident that any differences identified in the fridge selections between sample groups were a result of the control variables (i.e. presence or non-presence of energy efficiency information and the different formats of the information) and not due to differences in the sample profile, the randomised control group sampling methodology was supported by the monitoring of key demographics for each group to ensure there were no sample skews that could impact the results between sample groups.

The items monitored included: age; income levels, education levels, gender, household types, location (based on State and Territories and capital city versus non-capital city) and attitudes/behaviour towards the environment.

Appendix VII provides the sample profile of the survey participants.

Research methodology - continued

7

Phase 7 – Analysis, data handling and reporting

The survey responses were analysed using a range of statistical techniques. They included frequency counts and percentages, significance testing (T-tests) to determine if there is a significant difference between different variables, correlation analysis to measure the relationships between variables and multiple regression to determine key drivers of attributes.

All tests for statistical significance were undertaken at the 95 per cent level of confidence, and any notation of a 'difference' between subgroups means that the difference discussed is significant at the 95 per cent level of confidence. The report only notes those differences that are statistically significant.

Where responses are scale variables, for example 1 to 5 where 1 is disagree strongly and 5 is agree strongly, the mean is also calculated with the removal of don't know.

All results have been rounded to the nearest whole percentage figure and anomalies of about +/- 1% may occur in charts e.g. add to 99%, or 100% or 101% due to rounding.

Nett results are also rounded after summing the separate proportions rather than simply summing two rounded figures (e.g. '% total agree'). For this reason, anomalies of about 1% sometimes occur between nett results and rounded results shown in charts. For example, a proportion of 33.3% 'agree' rounds to 33%, and a proportion of 12.4% 'strongly agree' rounds to 12%. However, when combined to derive the total agree (i.e. agree plus strongly agree), 33.3% plus 12.4% equals 45.7%, which would be rounded to 46%. In this case, the results would be shown in a chart as 33% agree and 12% strongly agree, but the proportion reported as 'total agree' would be 46%.

A draft research report was produced on the results from the analysis of the experiment and questionnaire responses. The draft report was presented to representatives of the department. This document provides the final full report. An Executive Summary Report and a snapshot document have also been produced.

3

Impact of energy rating information and its form in online decision-making (experiment)

Impact of energy rating information

Summary of the results from the experiment

instinct and reason

- If no energy rating information was provided at the consideration stage, only 9% selected fridges rated four stars or more with an average rating of 3.33. If the energy rating information was shown in text only, 14% selected fridges of four stars or more, with an average rating of 3.39. Whereas, 31% of those who were exposed to the Energy Rating Icon at the consideration stage selected fridges rated four stars or more (3 times more than with no information and 2 times more than with text), with an average rating of 3.58 which was statistically higher than both no information and text.
- When just looking at the choice stage in isolation, if no energy rating information was provided, only 20% selected a fridge rated four stars or more, with an average rating of 3.37. When the information was provided as text, 26% of participants selected a fridge of four stars or more, with an average rating of 3.46 (statistically higher than having no information). If the information was shown as an icon, 35% selected a fridge rated four stars or more, with an average rating of 3.62 which was statistically higher than if no information was shown and if text was shown at the choice stage.
- Showing no information and then an icon had the greatest impact between the consideration and choice stage with 59% demonstrating an improvement in their choice. In fact any inclusion of an icon at the choice stage showed significant improvement, as did text included at the choice stage compared to no information at consideration stage.
- However, showing an icon at both stages had the greatest impact on the ultimate choice – an improvement of 0.34 in the average rating or over double the proportion of 4.0 and 4.5 fridges chosen compared to no information being provided at all. Showing an icon at only the choice stage would improve the average rating by 0.20, with 11-12% more 4.0 and 4.5 fridges chosen.
- **In conclusion, the results of the experiment showed the positive impact of an Energy Rating Icon in the decision-making process and on the energy efficiency of the product ultimately chosen, particularly if shown at both stages but even if only shown at the choice stage. Providing the information in text does not seem to have sufficient impact.**
- There is a generally a positive relationship between higher education and income and the selection of higher energy efficiency rated fridges, but a negative relationship to males and younger consumers (21-34 years).
- When the icon was shown to participants it resulted on average in higher priced fridges being shortlisted and ultimately chosen.

Impact of energy rating information

on online decision-making at the consideration stage

As described in the methodology section of this report, an experiment was conducted using an online store similar to those used in 'real life'. The first 'consideration stage' of the experiment was introduced as follows:

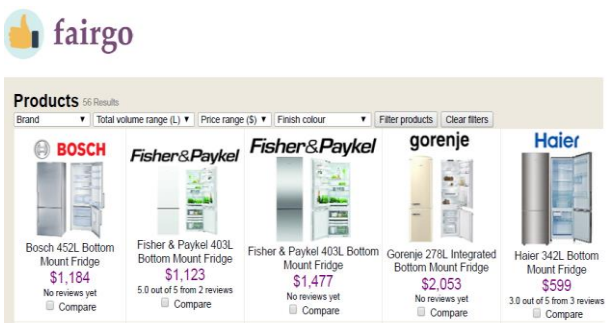
Imagine that you are looking to buy a bottom mount refrigerator for your home (i.e. with a freezer compartment at the bottom) and are visiting an online store. Online stores often have so many products on offer that not all product information can be shown at once. Instead, they allow you to choose which products you'd like to read more information about.

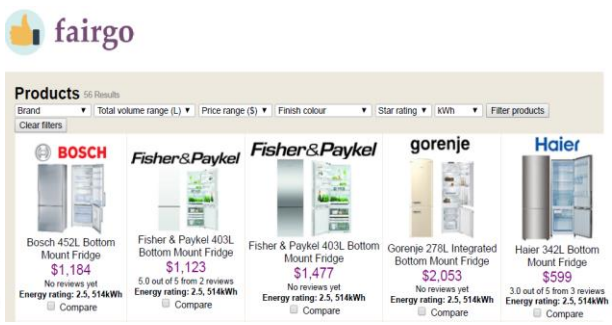
B1. Our online store shows a range of bottom mount refrigerators that is available in the market. To simplify your task imagine that these are the only products available. Select the refrigerators that you would seriously consider and you would like to read more about. Make your selection by clicking on each refrigerator you are interested in.

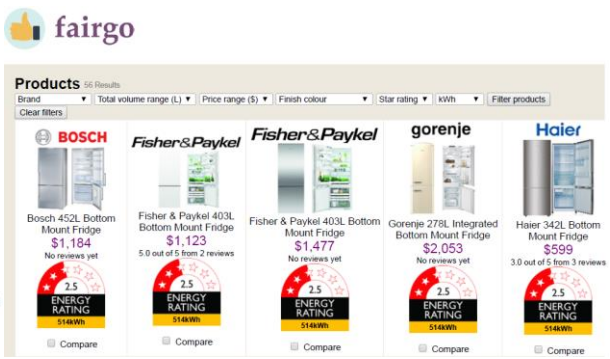
***You need to select at least 2 and no more than 5**.*

Our online store shows the products and information in the same way as other online stores. You can filter by brand, size, price range and finish colour. Just click on 'Filter products' after you make and filter choices.

At the consideration stage the online store included 56 actual fridges from the Australian online market with energy rating information either: (1) not included; (2) in text; or (3) as an Icon.



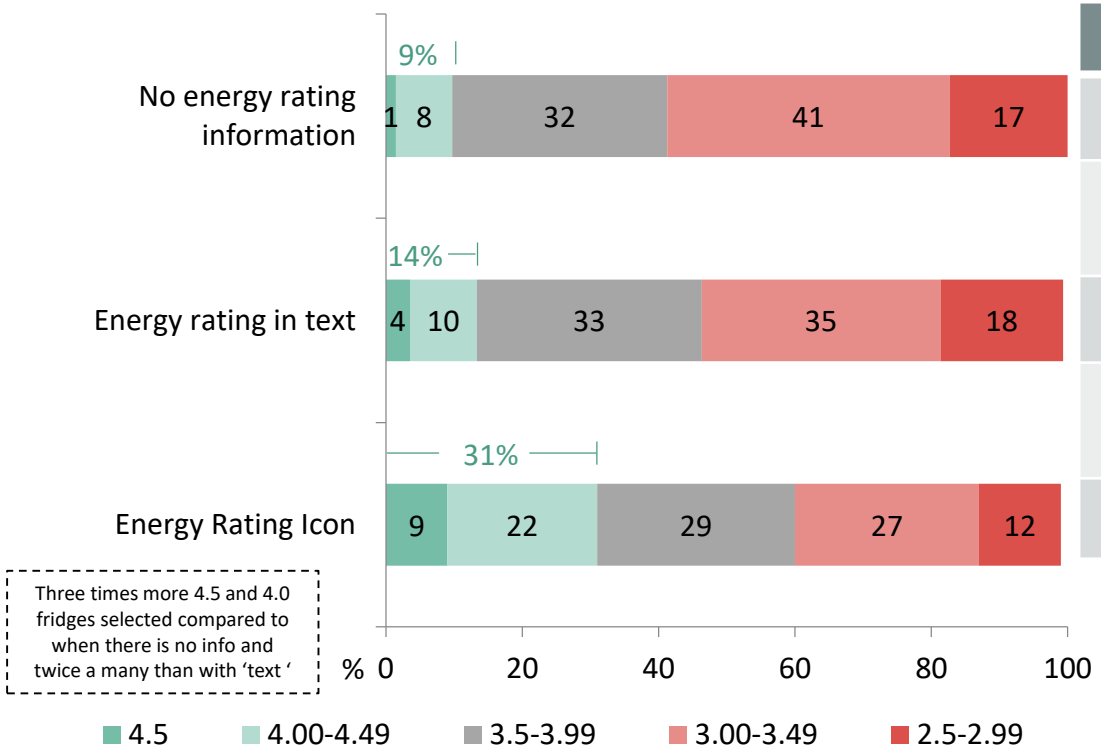




Impact of energy rating information on the energy ratings

of fridges selected at the consideration stage

If no energy rating information was provided at the consideration stage, only 9% selected fridges rated four stars or more with an average rating of 3.33. If the energy rating information was shown in text only, 14% selected fridges of four stars or more, with an average rating of 3.39. However, this was not statistically higher than if no information was provided. By contrast, 31% of those who were exposed to the Energy Rating Icon at the consideration stage selected fridges rated four stars or more (3 times more than with no information and 2 times more than with text), with an average rating of 3.58 (0.25 higher than no information and 0.19 higher than in text). This was statistically higher than if no information was shown and if text was shown.



Mean score	Statistically significant differences
3.33	Same as text but lower average rating and proportions selecting 4.0 or 4.5 than with an icon
3.39	Same as no info but lower average rating and proportions selecting 4.0 or 4.5 than with an icon
3.58	Higher average energy rating and more selecting 4.0 or 4.5 than no info or if it is in text

Three times more 4.5 and 4.0 fridges selected compared to when there is no info and twice a many than with 'text '

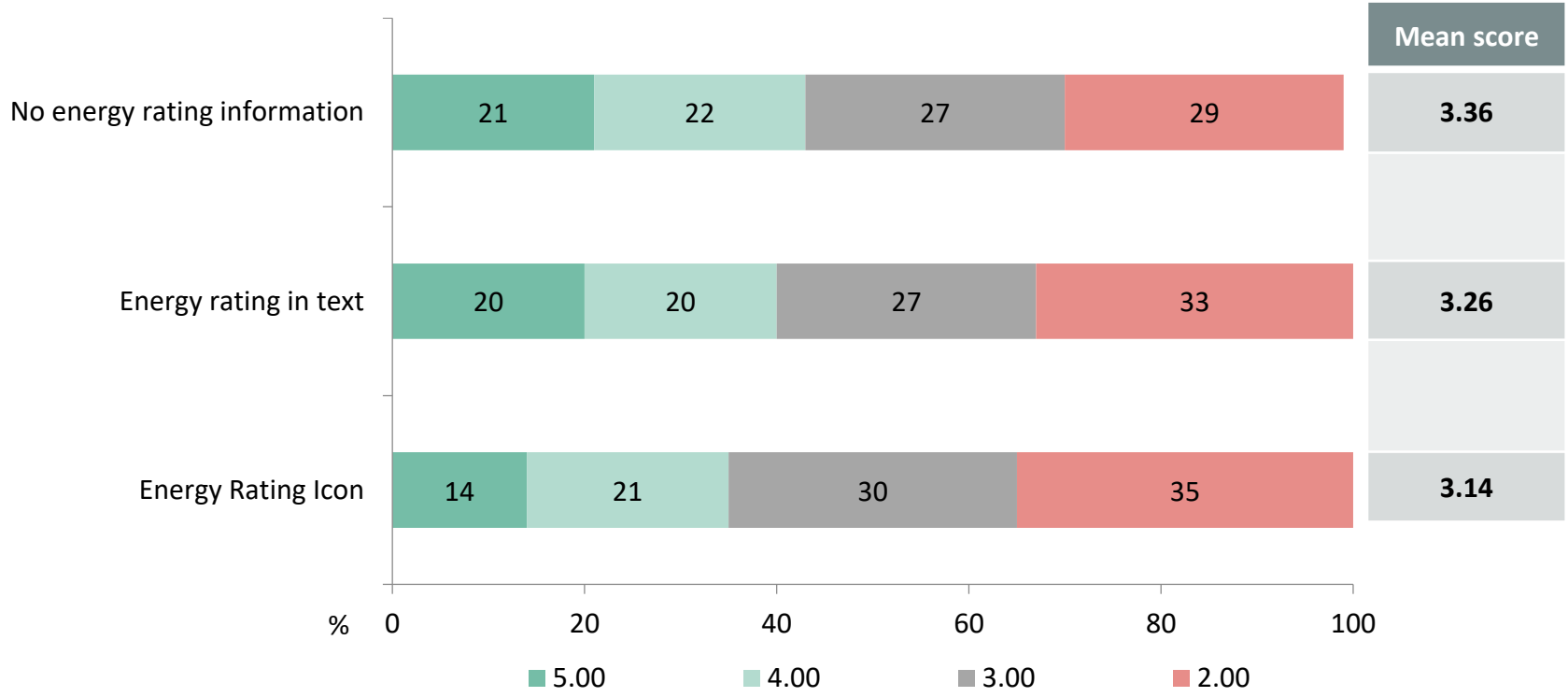
For all 56 fridges in the online store for the experiment the mean rating was 3.39 (based on 13% at 4.5 and 11% at 4.0 for a total of 24% at those ratings — plus 36% at 3.5, 25% at 3.0 and 16% at 2.5 — similar to the distribution found in the online market

Average considered fridge energy star.

Base: *No energy star information (groups 1-3) (n=2408); Words; words (4) (n=804); Words; label (5) (n=803)*

Impact of energy rating information on the number
of fridges shortlisted at the consideration stage

Participants chose more fridges to view at the consideration stage when no energy efficiency information was shown (mean=3.36) or when the information was provided in text only (3.26). When shown the options with the Energy Rating Icon, participants chose an average of 3.14 fridges to consider. This suggests that energy rating information may contribute to shortlisting a smaller number of more energy efficient products at the consideration stage. However, the results when the icon was present were not statistically significantly different from situations where no information was provided or if the energy rating information was in text only.



Average number of fridges considered.

Base: *Total sample n=4,818, nett Group 1-3 no energy efficiency information (n=2,408), nett Group 4-5 in words (n=1,607), nett Group 6 label (n=803).*

Impact of energy rating information

on online decision-making at the choice stage

As described in the methodology section of this report, after participants made their shortlist at the consideration stage in Section B of the survey, they were taken back to the online store. On the screen in Section C for the choice stage participants were presented the individual product pages for the products they had shortlisted with the same detailed information they would see on other 'real life' online stores. The 'choice stage' of the experiment was introduced as follows:

Let's go back to the online store we have created and the refrigerators you selected to see more information. On the next screen you will see the individual product pages for the products you short-listed (with information like you would see on other online stores). Please indicate which one of the four products you would choose if you had to select one for your household today.

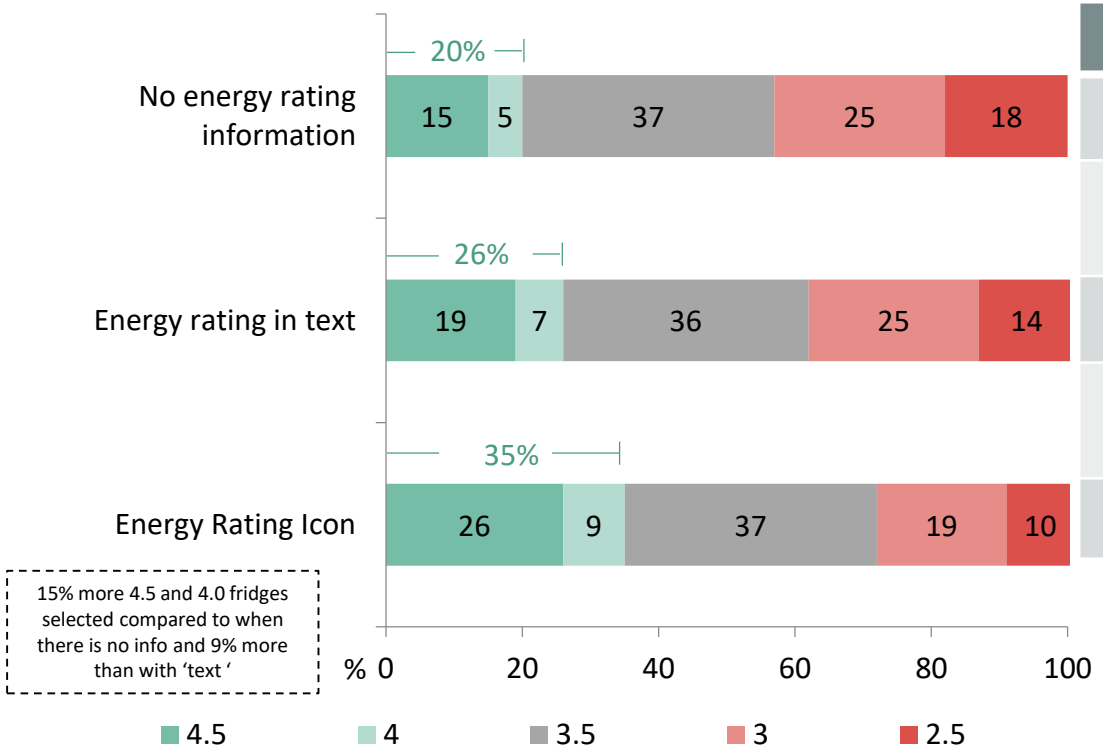
C1. Which refrigerator would you choose if you were looking today for a refrigerator like these? Please select the refrigerator that you would prefer by clicking on the shopping cart and the clicking on 'Select product'.

At the choice stage they were shown the 2 to 5 fridges they had shortlisted with energy rating information either: (1) not included; (2) in text; or (3) as an Icon.

Impact of energy rating information on the energy rating

of the fridge selected at the choice stage specifically

When just looking at the choice stage in isolation, if no energy rating information was provided, only 20% selected a fridge rated four stars or more, with an average rating of 3.37. When the information was provided as text, 26% of participants selected a fridge of four stars or more, with an average rating of 3.46 (statistically higher than having no information). If the information was shown as an icon, 35% selected a fridge rated four stars or more, with an average rating of 3.62 (0.25 higher than no information and 0.16 higher than in text). This was statistically higher than if no information was shown and if text was shown at the choice stage.



	Mean score	Statistically significant differences
No energy rating information	**3.37**	Lower average rating and proportions selecting 4.0 or 4.5 than with text or an icon
Energy rating in text	**3.46**	Higher than no info but lower average rating and proportions selecting 4.0 or 4.5 than with an icon
Energy Rating Icon	**3.62**	Higher average energy rating and more selecting 4.0 or 4.5 than no info or if it is in text

15% more 4.5 and 4.0 fridges selected compared to when there is no info and 9% more than with 'text '

For all 56 fridges in the online store for the experiment the mean rating was 3.39 (based on 13% at 4.5 and 11% at 4.0 for a total of 24% at those ratings — plus 36% at 3.5, 25% at 3.0 and 16% at 2.5 — similar to the distribution found in the online market

Average considered fridge energy star.

Base: *Total sample n=4,818, nett Group 1 no energy efficiency information (n=800), nett Group 2-4 in words (n=1,610), nett Group 3,5,6 label (n=2,408).*

Impact of energy rating information on the energy rating

of the fridge selected at the consideration versus choice stage

Showing no information and then an icon had the greatest impact between the consideration and choice stage with 59% demonstrating an improvement in their choice. In fact any inclusion of an icon at the choice stage showed significant improvement, as did text included at the choice stage compared to no information at the consideration stage. However the inclusion of an icon at both stages saw a significantly better outcome overall. This is explored more on the next page.

	Average star rating at consideration stage	Average star rating at choice stage	Average difference	Average chosen star rating better/ same/worse than considered.
Group 1 No energy star information + No energy star information	3.32	3.37	+0.05	42 / 19 / 39
Group 2 No energy star information + Energy star rating text	3.34	3.44	+0.11	48 / 17 / 35
Group 3 No energy star information + Energy Rating Icon	3.34	3.57	+0.23	59 / 18 / 23
Group 4 Energy star rating in words + Energy star rating words	3.40	3.48	+0.08	44 / 20 / 36
Group 5 Energy star rating in words + Energy Rating Icon	3.37	3.57	+0.20	56 / 21 / 23
Group 6 Energy Rating Icon + Energy Rating Icon	3.58	3.71	+0.13	48 / 26 / 25

% Better Same Worse

Denotes a result that is statistically significantly higher at choice stage than at consideration stage.

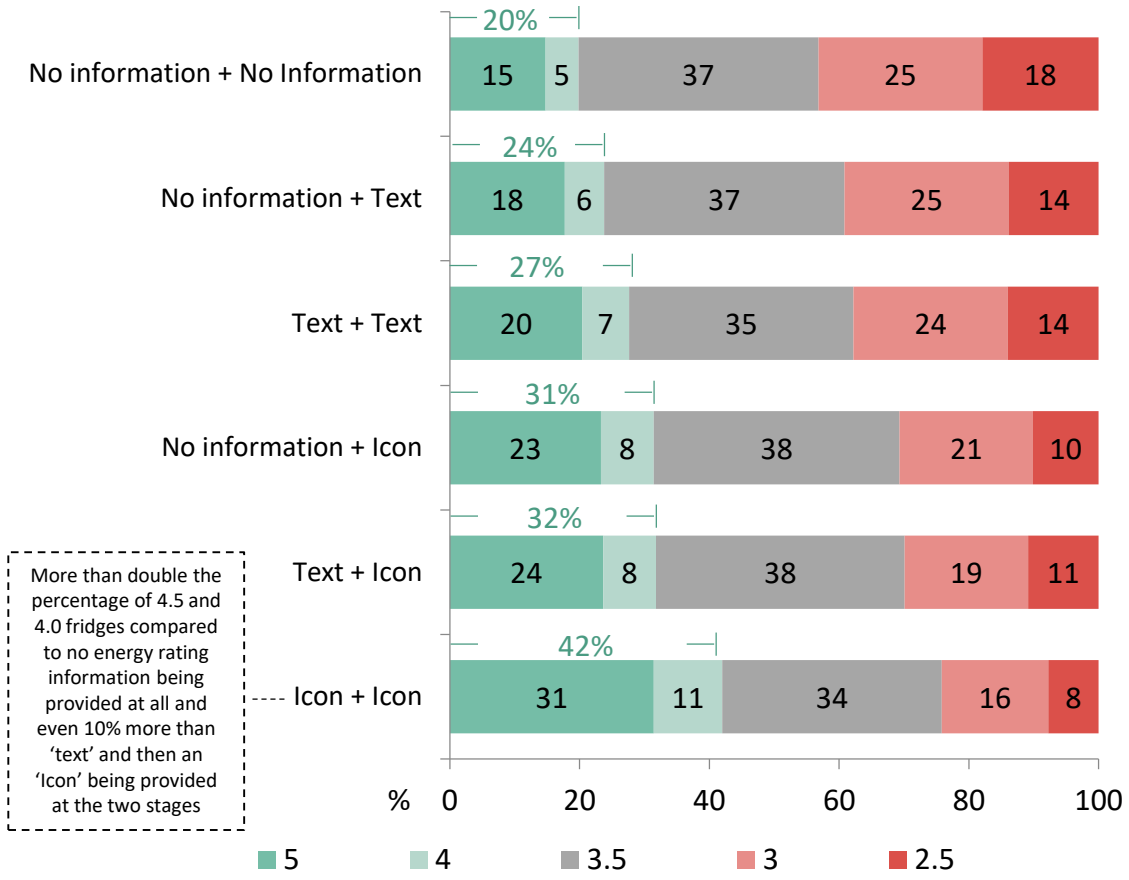
Average star rating at consideration v. choice stage.

Base: *Total sample n=4,818, Group 1 n=800, Group 2 n=806, Group 3 n=802, Group 4 n=804, Group 5 n=803, Group 6 n=803.*

Impact of energy rating information on the energy rating

of the fridge selected based on the combined consideration and choice stages

Showing an icon at **both** stages had the greatest impact on the ultimate choice—an improvement of 0.34 in the average rating or more than double the proportion of 4.0 and 4.5 fridges chosen compared to no information being provided. Showing an icon at only the **choice stage** would improve the average rating by 0.20, with 11-12% more 4.0 and 4.5 fridges chosen.



More than double the percentage of 4.5 and 4.0 fridges compared to no energy rating information being provided at all and even 10% more than 'text' and then an 'Icon' being provided at the two stages

	Mean rating	Statistically significant differences
No information + No Information	**3.37**	Lower energy rating than all except when only in text at the choice stage
No information + Text	**3.44**	Essentially the same as providing no information at either stage
Text + Text	**3.48**	Higher than only providing text at the choice stage but lower than an Icon at the choice stage or at both stages
No information + Icon	**3.57**	Higher than providing no Icon at the choice stage. An Icon at the choice stage has the same impact whether no energy rating information is provided or it is in text at the consideration stage
Text + Icon	**3.57**	
Icon + Icon	**3.71**	Higher energy rating than all other combinations

For all 56 fridges in the online store for the experiment the mean rating was 3.39 (based on 13% at 4.5 and 11% at 4.0 for a total of 24% at those ratings — plus 36% at 3.5, 25% at 3.0 and 16% at 2.5 — similar to the distribution found in the online market

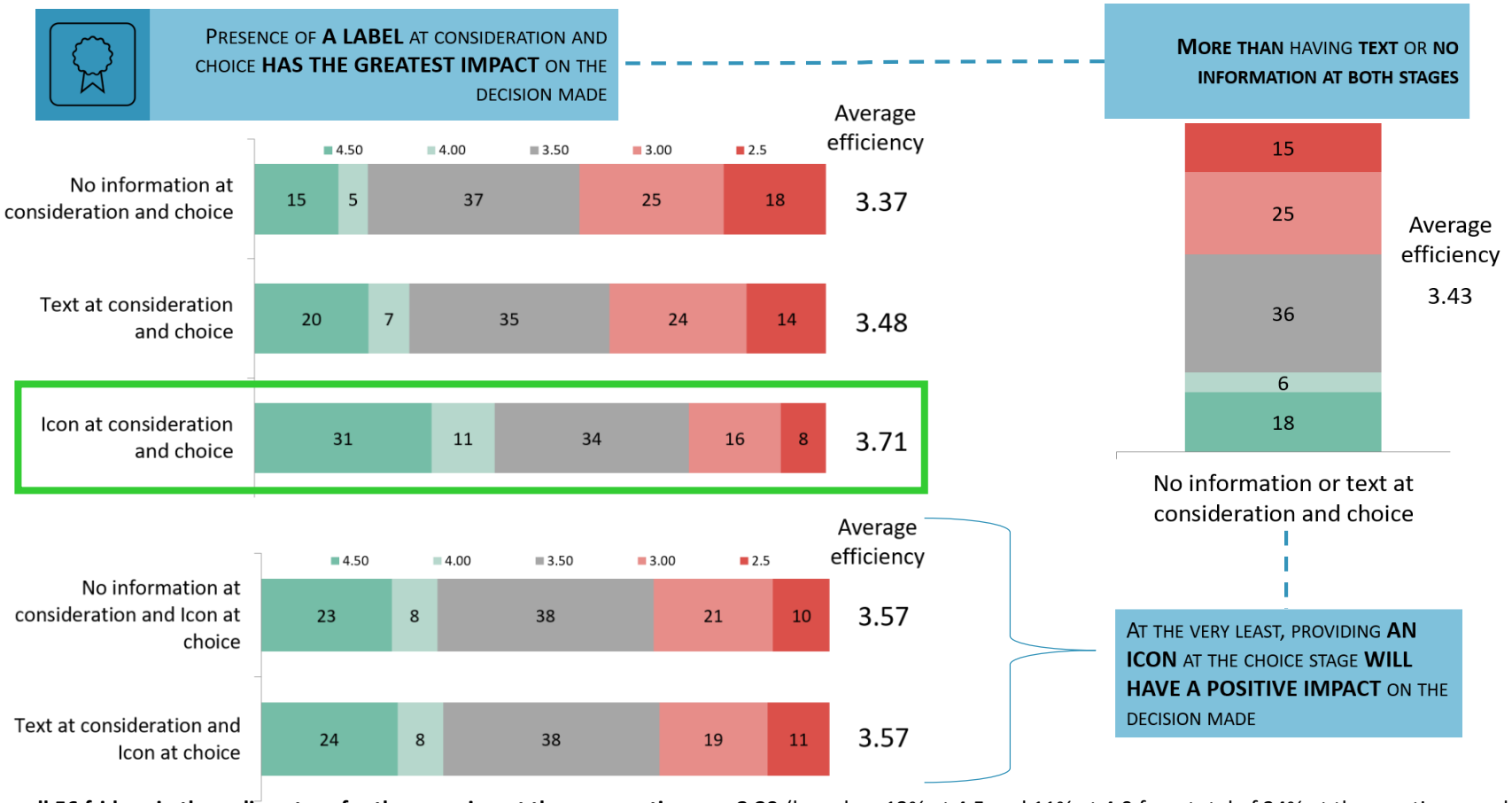
Average star rating chosen. 1 compared to 2, 1 compared to 3, 1 compared to 4, 1 compared to 5, 1 compared to 6.

Base: *Total sample n=4,818, Group 1 n=800, Group 2 n=806, Group 3 n=802, Group 4 n=804, Group 5 n=803, Group 6 n=803.*

Relative impact of energy rating information on the energy rating

of the fridge selected based on the combined consideration and choice stages

The results below further illustrate the positive impact of an Energy Rating Icon in the decision-making process and on the energy efficiency of the product ultimately chosen, particularly if shown at both stages but even if only shown at the choice stage in comparison to no energy rating information being provided or if it is provided in text.



For all 56 fridges in the online store for the experiment the mean rating was 3.39 (based on 13% at 4.5 and 11% at 4.0 for a total of 24% at those ratings — plus 36% at 3.5, 25% at 3.0 and 16% at 2.5 — similar to the distribution found in the online market

Average star rating chosen. 1 compared to 2, 1 compared to 3, 1 compared to 4, 1 compared to 5, 1 compared to 6.

Base: *Total sample n=4,818, Group 1 n=800, Group 2 n=806, Group 3 n=802, Group 4 n=804, Group 5 n=803, Group 6 n=803.*

Denotes significantly higher

Impact of energy rating information on the ease or difficulty

of understanding the information in the online store or selecting fridges

Participants in the experiment were asked if they found the information in the online store to be easy or difficult to understand. Overall, half the respondents (50%) found the information on the website to be easy to understand, another 26% indicated it was somewhat easy, 17% indicated it was neither easy nor difficult and 7% indicated it was difficult. Just over a third (35%) found it easy to make their initial choice, 28% somewhat easy, 22% found it neither easy nor difficult and 14% found it difficult. More of the participants (41%) found it easy to make their final choice, 29% found it somewhat easy, 18% found it neither easy nor difficult and 12% found it difficult.

There was no significant difference in the results between those not shown energy rating information, those show it in text and those shown it as an icon. This suggests that the improvement in the energy efficiency of the product selected is not a result of conscious connection to the presence or not of the energy rating information or the form it is provided in.

C2a. I found initially choosing fridges I would seriously consider and would like to read more about to be... ***Base:*** *Total sample n=4,771*

C2b. I found making the final choice of the fridge I prefer to be... ***Base:*** *Total sample n=4,818*

C3. I found the information on this website to be... ***Base:*** *Total sample n=4,818*

Profile of people in the consideration stage

based on the average energy rating of the fridges they shortlisted

instinct and reason

There were some relationships between the fridges shortlisted and the profile of the participants.

Average 2.5-3 stars

- Average number of fridges selected = 3.36
- Average star rating at final choice = 3.17
- Choice rating vs. considered rating = +0.14

More likely…

Sample Group
- Group 1, 2 and 3 – No energy star information in consideration stage (and for Group 1 at choice stage)

Demographics
- Male, Aged 55-60, Annual household income of $0-38,600
- Single household, with no school aged children
- Used a tablet to complete the survey

Shopping behaviour
- Main person in purchase of household appliances
- Would consider and prefer Fisher & Paykel
- Found making final choice neither easy nor difficult
- Most likely to use Tablet to research or make a purchase
- Purchased in last 3 months: DVD/ Blu-Ray player, Microwave
- Purchased a freezer in the last 4-12 months

Energy rating attitudes and behaviour…
- Neither agree/disagree icon would help compare/ choose
- Logo becomes too small to read at 120px
- Had never previously seen label on appliances
- Energy efficiency is only somewhat important
- Neither agree nor disagree it is a good idea to choose energy-efficient appliances, or that they pay close attention to the energy-efficiency

Environmental attitudes and behaviour
- Not sure how often they purchase recycled/ recyclable products or wash at low temperatures
- Only sometimes turn lights off when leaving a room
- Agree not much they can do about the environment, and humans have a right to modify the environment
- Disagree they are concerned about the environment

Average 3.5 stars

- Average number of fridges selected = 3.39
- Average star rating at final choice = 3.79
- Choice rating vs. considered rating = +0.16

More likely…

Sample Group
- No relationship identified to sample groups (i.e. presence or not of the energy rating information)

Demographics
- 4 person household
- Couple with one or more school age child
- Used computer/ laptop to complete the survey

Shopping behaviour
- Would consider Westinghouse, LG, but prefer Westinghouse or Electrolux
- Low frequency of searching for information in person then purchasing online in the last 12 months
- Bought in a bricks and mortar store in the last 12 months items worth $50 or more that included clothes, shoes/ jewellery, electrical appliances, or food

Energy rating attitudes and behaviour…
- Prefers the icon top left near the fridge image
- Have not ever visited www.energyrating.gov.au after seeing it on a label
- Agree that the logo without kwh would help them pick an energy efficient fridge
- Disagree that family and friends would expect them to purchase energy-efficient electrical appliances

Environmental attitudes and behaviour
- Disagree that there is not much they can do about the environment
- Only sometimes purchase recycled/recyclable products
- Mostly/always turn lights off when leaving a room.
- Never/rarely use washing machine at low temperatures

Average number 4.0-4.5 stars

- Average number of fridges selected = 2.83
- Average star rating at final choice = 4.25
- Choice rating vs. considered rating = +0.06

More likely…

Sample Group
- Group 6 - icon at consideration stage and Group 3, 5 and 6 with the icon at choice stage

Demographics
- Education Post-graduate or higher
- Used computer/ laptop to complete the survey

Shopping behaviour
- Consider and prefer LG
- Most likely would buy a fridge from an online store
- Find energy efficiency more important than the total sample when choosing a fridge, a washing machine, or a television

Energy rating attitudes and behaviour…
- Agree that they clearly and easily understand what the icon is telling them about the fridge and help them pick an energy efficient product
- Would visit www.energyrating.gov.au if noticed
- Energy efficiency is very important when buying
- Most of their family and friends possess energy-efficient appliances and would expect them to also
- They pay close attention to its energy-efficiency and intend to purchase an energy-efficient alternative

Environmental attitudes and behaviour
- Agree that they are generally concerned about environmental problems, and that humans are severely abusing the environment
- Turn off ‘standby’ modes on the TV + other appliances
- Buy products from materials that are or can be recycled

Profile of people in the choice stage

based on the energy rating of the fridge they chose

There are again some relationships between the fridge ultimately chosen and the profile of participants with some differences.

Average 2.5-3 stars

- Average number of fridges selected = 3.14
- Average star rating at consideration = 3.00
- Choice rating vs. considered rating = +0.18

More likely…

Sample groups
- Group 1, 2 and 3 – No energy rating info at consideration (and Group 1 – No info at choice) and Group 2, 4 - Energy star rating words at choice stage

Demographics
- Aged 21-24, Male

Shopping behaviour
- Consider Fisher & Paykel/ Sharp; prefer Fisher & Paykel
- Have purchased a fridge in the last 12 months
- Research in person (at a bricks and mortar store) and buy online and likely use a tablet to it
- Would not use the internet to research what is available/on offer, or shortlist and compare products
- Purchased in the last 3 months a DVD/ Blu-Ray player, washing machine, dishwasher, microwave, laptop and in the last 4-12 months a microwave, freezer

Energy rating attitudes and behaviour
- Disagree that the logo without kwh would remind them to consider the energy efficiency when buying
- Logo becomes too small to read at 120px
- Had not seen the Energy Rating Label on appliances
- Energy efficiency is not at all or only somewhat important when purchasing appliances
- Agree cannot afford to choose energy-efficient appliances

Environmental attitudes and behaviour
- Never/rarely or only sometimes re-use plastic bags
- Only sometimes turn lights off when leaving the room or use the washing machine at a low temperature
- Agree not much they can do about the environment and humans have the right to modify the environment
- Disagree they are concerned about the environment

Average 3.5 stars

- Average number of fridges selected = 3.38
- Average star rating at consideration = 3.38
- Choice rating vs. considered rating = +0.12

More likely…

Sample Group
- No relationship identified to sample groups (i.e. presence or not of the energy rating information)

Demographics
- Aged 55-60 , Female
- Born in Australia and only speaks English at home
- Lives in WA outside of Perth

Shopping behaviour
- Would not order and purchase an appliance online
- Consider/prefer Westinghouse, Kelvinator, Whirlpool
- Would buy a fridge at a physical store
- Low frequency in the last 12 months of searching information a physical store then buying online
- In the last 12 months have used a computer/laptop to make online purchases
- Bought in a bricks and mortar store in the last 12 months items worth $50 or more that included clothes, shoes/ jewellery, electrical appliances, or food

Energy rating attitudes and behaviour
- Agree icon would help them pick an energy efficient fridge
- Logo becomes too small to read at 40px
- Prefer the icon at the bottom righthand of the screen
- Have seen Energy Rating Label on appliances in store, but not visited the www.energyrating.gov.au
- Energy efficiency only somewhat important
- Disagree that family and friends would expect them to purchase energy-efficient electrical appliances

Environmental attitudes and behaviour
- Mostly/always reuse plastic bags
- Never/rarely purchase organic or fair trade food or turn off 'standby' modes on the TV/ other appliances

Average number 4.0-4.5 stars

- Average number of fridges selected = 3.36
- Average star rating at final choice = 3.85
- Choice rating vs. considered rating = +0.52

More likely…

Sample Group
- Group 6 – icon at consideration stage and Group 3, 5 and 6 with the icon at the choice stage

Demographics
- Aged 21-34, University or tertiary diploma or degree

Shopping behaviour
- Consider and prefer LG and Samsung, Consider Electrolux
- To say the choice was very easy/easy and the info in the online store very easy/easy to understand
- Used a smartphone to shop in last 12 months

Energy rating attitudes and behaviour
- Agree that they clearly and easily understand what the icon is telling them, they would use the icon to compare and remind them to think about energy efficiency and help them choose
- Prefer label with stars and kWh
- Would visit www.energyrating.gov
- Agree they pay close attention to energy efficiency, they intend to purchase energy efficient products and most of their family and friends do and expect them to do so as well and energy-efficient products pay off
- Disagree they cannot afford energy efficient products and it is difficult to understand which appliances are energy efficient

Environmental attitudes and behaviour
- Purchase organic and items from recycled materials
- Turn off stand-by modes and lights when leaving the room and use washing machine at low temperature
- Disagree there is not much that they can do about the environment and agree humans are severely abusing the environment

Relationship between the profile of people

and the energy rating of the fridges shortlisted and ultimately chosen

Regression analysis was undertaken to determine correlations between participant profiles and the energy ratings for the fridges shortlisted and ultimately chosen.

Males and those aged 21 to 34 years were more likely to **shortlist 2.5 to 3 star fridges**, while high income households were less likely to do so

Average of 2.5-3.00 was shortlisted	Coefficient	Z-value	Relationship
Male	0.578	0.000	Positive
Aged 21 to 34	0.448	0.004	Positive
Income ($126,501+ per year)	-0.520	0.001	Negative

High income households and those who board/ live in share houses were less likely to **shortlist 3.5 star fridges**

Average of 3.5 was shortlisted	Coefficient	Z-value	Relationship
Income ($126,501+ per year)	-0.194	0.025	Negative
Boarder/ Share House	-0.824	0.004	Negative

High income households and those who board/ live in share houses were more likely to **shortlist 4.0 to 4.5 star fridges**

Average of 4.0-4.5 was shortlisted	Coefficient	Z-value	Relationship
Income ($126,501+ per year)	0.477	0.005	Positive
Boarder/ Share House	0.637	0.044	Positive

Singles and males were more likely to **chose a 2.5-3.00 star fridge**. People who aged 55+ and those with high household income were less likely to do so.

Rating of 2.5-3.00 was chosen	Coefficient	Z-value	Relationship
Single	0.256	0.018	Positive
Male	0.565	0.000	Positive
Aged Over 55	-0.305	0.001	Negative
Income ($126,501+ per year)	-0.426	0.000	Negative

Households with 5+ people were more likely to **chose a 3.5 star fridge** while males and those aged 21 to 54 years were less likely to do so.

Rating of 3.5 was chosen	Coefficient	Z-value	Relationship
Household size 5+ persons	0.208	0.046	Positive
Male	-0.153	0.011	Negative
Aged 21 to 34	-0.455	0.000	Negative
Aged 35 to 54	-0.230	0.001	Negative

High income households were more likely to **chose a 4.0-4.5 star fridge**. Males, lower educated and those with lower household income were less likely to do so.

Rating of 4.0 to 4.5 star chosen	Coefficient	Z-value	Relationship
Income ($126,501+ per year)	0.212	0.011	Positive
Male	-0.160	0.025	Negative
Low Education	-0.156	0.044	Negative
Income ($38,600 or below per year)	-0.427	0.001	Negative

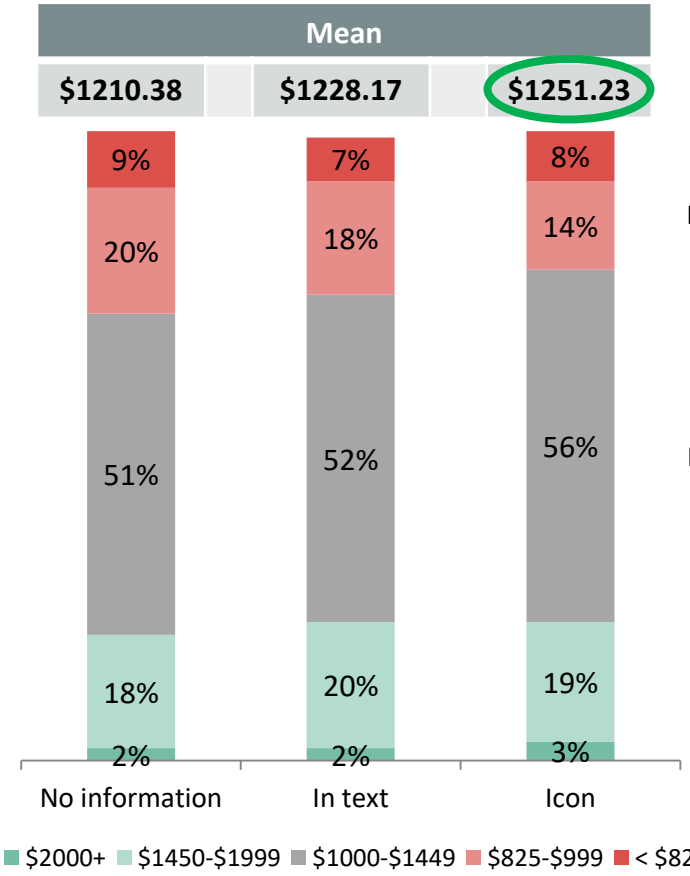
Binary Logistic Regression, Nagelkerke R^2 = 2% *Caution: Result with low R^2
Only statements significant at the 95% confidence interval are shown

Impact of energy rating information on the price

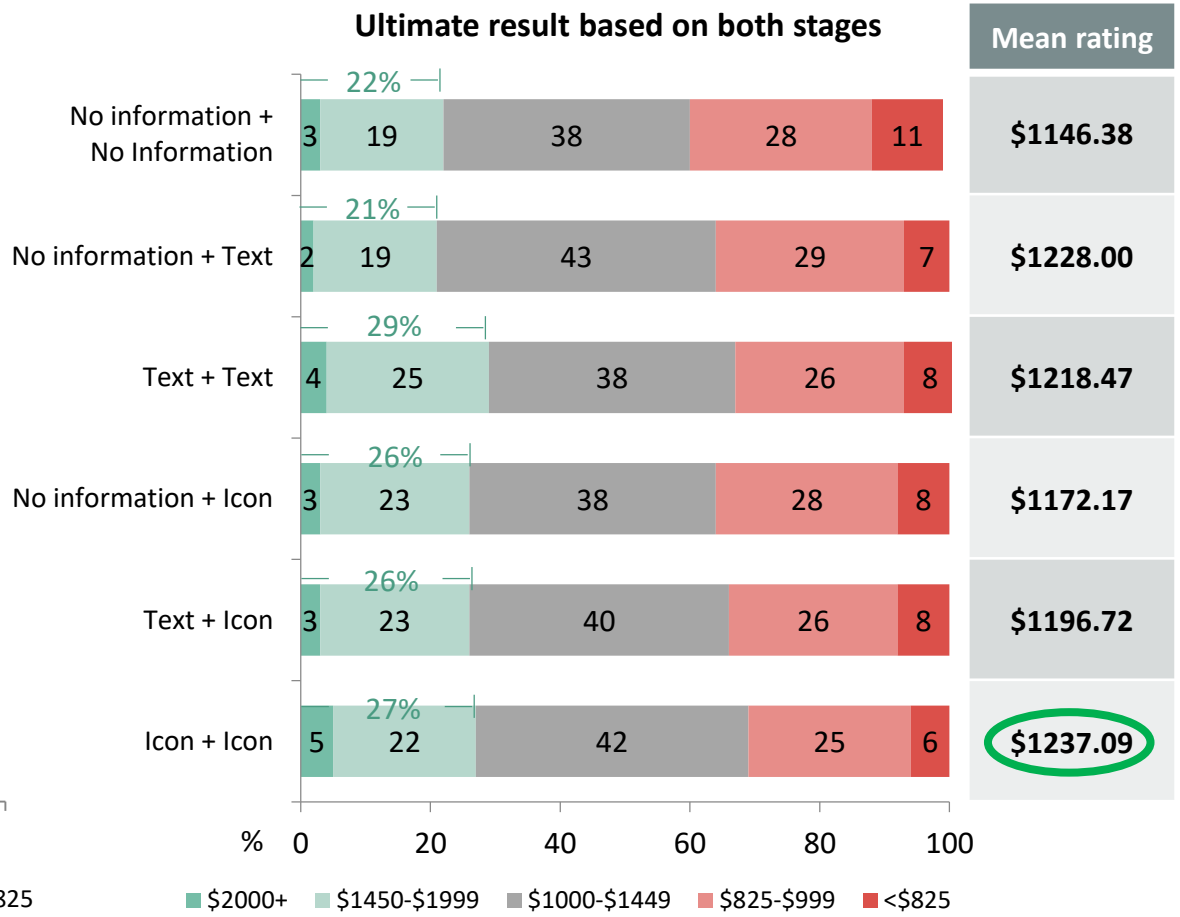
of the fridge selected based on the combined consideration and choice stages

Despite an analysis of the fridges found in the Australian online market and included in the experiment showing no direct or a weak negative correlation between the price of fridges and their star rating (see Appendix III), it was identified that when the icon was shown to participants it did result on average in higher priced fridges being shortlisted and ultimately chosen.

Results at the consideration stage



Ultimate result based on both stages



For all 56 fridges in the online store for the experiment the mean price was $1620.09 —the distribution found in the online market was $1836.97

Average star rating chosen. 1 compared to 2, 1 compared to 3, 1 compared to 4, 1 compared to 5, 1 compared to 6.

Base: *Total sample n=4,818, Group 1 n=800, Group 2 n=806, Group 3 n=802, Group 4 n=804, Group 5 n=803, Group 6 n=803.*

Denotes significantly higher

instinct and reason

4

Understanding of energy efficiency information and icon

Understanding of energy efficiency information and the icon

Summary of results from testing participants understanding

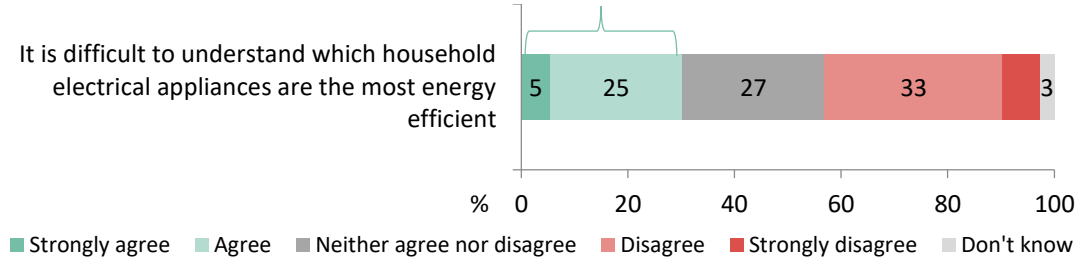
instinct and reason

- Just under a third (30%) of participants indicated in the survey it was difficult to understand which household appliances were the most energy efficient, while 40% disagreed. The rest were neutral or uncertain.
- However, the survey results also confirmed that when shown the Energy Rating Icon, while most people did not fully understand the technical intricacies for different types of fridges, the concept of more stars equals a more efficient fridge was well understood with its three visual indicators (the stars, the number and the red fill).
- Almost nine in ten participants agreed in total (and between 40–48% strongly agreed) that: they understood what the icon was telling them about the fridge; it would help them pick an energy efficient fridge; it would be used to compare fridges; and it would remind them to consider energy efficiency when making their purchase decision. Only 2 to 4% actually disagreed with any of the statements. **So on this criteria the icon delivers on its primary purpose**.
- Over a third (37%) said they didn't understand what 246kWh means, while 29% knew that it was related in some way to energy consumption and 13% indicated that it related to the average usage per set time, or annual usage, or per hour usage, etc. Another 13% did not believe it was important information. Only 2% indicated using this number to calculate the annual cost of electricity or cost to run it. In summary and in line with the cognitive testing findings, very few appear to really understand kWh.
- Although few understood kWh, the majority (58%) preferred the icon with it included. Most (68%) of those who preferred inclusion of kWh valued its inclusion simply as another objective indication of which one is better (understanding that the lower the kWh the better), while some (38%) would use it to calculate the energy cost. The 20% who preferred the icon without the kWh did so mainly because they didn't understand what the kWh numbers meant (43%) or it was seen as simpler and easier to understand (40%).
- Close to nine in ten participants recognised the Energy Rating Label from appliances they had seen in bricks and mortar stores—9% were unsure but 4% said 'no'. This high level of awareness and familiarity to the label was reflected in the earlier results on why most participants responded positively to the icon based on the concept of more stars equals a more efficient fridge and the three visual indicators (the stars, the number and the red fill).

Ability to understand which household electrical appliances
are the most energy efficient

While this question was asked later in the survey, it is worth noting at this point how many and which people indicated it was difficult to understand the household electrical appliances that were the most energy efficient.

Just under a third (30%) of participants indicated it was difficult to understand which household appliances were the most energy efficient, while 40% disagreed. The rest were neutral or uncertain.



Profile of those who agreed it was difficult to understand which appliances were the most energy efficient (30%, n=1,513)

Average number of fridges selected = 3.21 | Average star rating at consideration stage = 3.38 | Average star rating at final choice = 3.51 | Choice rating vs. considered rating = +0.13

More likely…

Demographics
- Aged 21-34 years old
- Lives in a capital city and in particular in Sydney or Melbourne
- Languages other than English are spoken at home

Energy rating attitudes and behaviour…
- Considers energy efficiency is only somewhat important when buying appliances
- Disagrees they understand what the icon is telling them about the fridge or that it would help them pick an energy efficient fridge or would use icon to compare fridges
- Indicated neither the icon with or without kWh would help looking online to buy a fridge
- The icon becomes to small to read at 120px or 100px
- Indicated having the icon at the top left hand side of the screen would be noticed
- Had not previously seen the Energy Rating Label on appliances in stores nor have visited www.energyrating.gov.au not likely to do so in the future
- Disagree it is just normal to take into account the energy-efficiency of appliances, that they pay close attention to the energy-efficiency when buying one and that they tend to purchase an energy-efficient alternative
- Agree they cannot afford to choose energy-efficient electrical appliances but also agree it is generally a good idea to choose energy-efficient appliances, most of their family and friends possess energy-efficient appliances would expect them to do the same

Shopping behaviour
- Main person in purchase of household appliances
- Would buy online if actually to buy a fridge
- Prefers Panasonic
- High frequency in last 12 months of searching for information in store then buying online
- Purchased the following items worth $50 or more online in the last 12 months: books, furniture, sports/outdoor equipment

Environmental attitudes and behaviour
- Agree there is not much that I can do about the environment and that humans have the right to modify the natural environment to suit their needs
- Agree also at the same time that in general they are concerned about environmental problems, that the balance of nature is very delicate and easily upset, humans are severely abusing the environment and despite our special abilities humans are still subject to the laws of nature
- Mostly or always purchase organic or fair trade food items, turn off 'standby' modes on appliances, purchase recycled/ recyclable products and use rechargeable batteries

E6viii. The following statements are about household electric appliances. Please indicate to what extent you agree or disagree with them.
Base: *Total sample n=4,818 (single response)*

Understanding of the Energy Rating Icon

The survey results confirmed that while most people did not fully understand the technical intricacies of the Energy Rating Icon for different types of fridges, the concept of more stars equals a more efficient fridge was well understood with its three visual indicators (the stars, the number and the red fill). Participants provided what they understood the image was telling them in their own words and they have been coded in the table below accompanied with selected examples of the actual comments given by participants.

What the Icon was telling them	Total %
Energy efficiency of product/ used to compare/running cost	35
Medium energy saving/ mid range with normal use	22
The higher the stars the more energy efficient	20
It has a 3 1/2 star rating [out of 5]	12
It has a 3 1/2 star rating [out of 6]	6
Above standard/fairly energy efficient	9
Not very energy efficient /would not consider	8
Cost of running/more stars is cheaper	4
It has an excellent energy rating	2
Other	4
Unsure/don't know	3

"It tells me the energy rating against other product. This shows which product is more energy efficient."

"Energy rating is just above average."

"The product does not do so well when it comes to energy consumption."

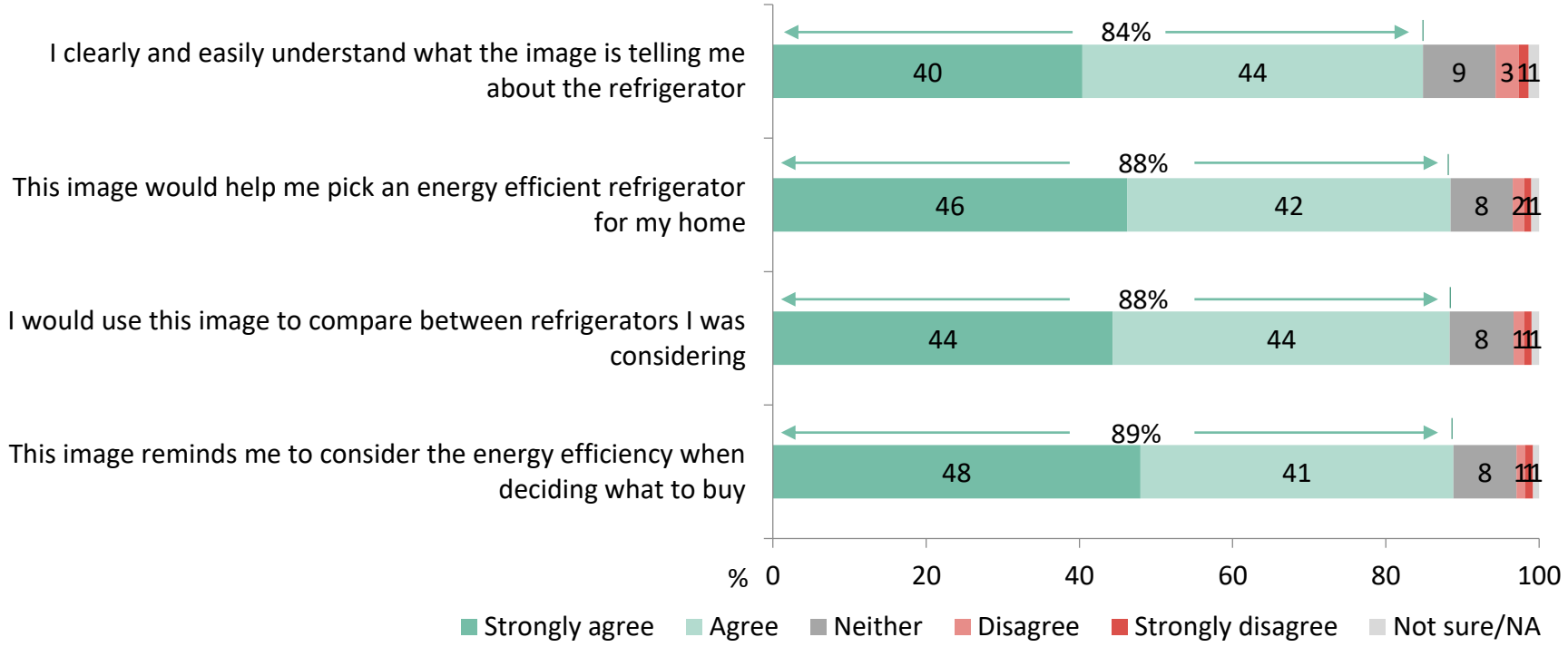
"That in terms of energy efficiency, it ranks slightly better than the 50% mark. This is a better option financially and environmentally than anything less than 3.5 to 5"

D1. In as much detail as possible please indicate what you understand the image is telling you about the refrigerator?
Base: *Total sample n=4,818 (open response)*

Attitudes towards the Energy Rating Icon

Almost nine in ten participants agreed (and between 40–48% strongly agreed) that: they understood what the icon was telling them about the fridge; it would help them pick an energy efficient fridge; it would be used to compare between fridges; and it would remind them to consider energy efficiency in making their purchase decision. Only 2 to 4% actually disagreed with any of the statements. **So on this criteria the icon delivers on its primary purpose.**

Appendix VIII provides a profile of those who strongly agreed with the statements.



D2. How strongly do you agree or disagree with the following statements?
Base: *Total sample n=4,818 (single response)*

What the addition of kWh to the icon told participants

More than a third (37%) said they didn't understand what 246kWh meant, while 29% knew that it was related in some way to energy consumption and 13% indicated that it related to the average usage per set time, or annual usage, or per hour usage, etc. Another 13% did not believe it was important information. Only 2% indicated using this number to calculate the annual cost of electricity or cost to run it. In summary and in line with the cognitive testing findings, very few appeared to really understand kWh.

What the image was telling you about the refrigerator	Total %
Not sure/ don't know/ unclear/don't understand/no answer	37
Energy used/ Amount of energy used/electricity used/energy consumption/have an understanding of what kilowatt means	29
Not important to me	13
Average usage per set time- Annual usage/ Per hour usage/time period unsure	13
Good/ Great fridge/ save even more/ Doesn't use much electricity/ Effective	4
Energy efficiency -Power ratings/The lower the number the better/ The higher the number the more power used	2
Electricity Bill Cost: Using this number can calculate the annual cost of electricity/Cost to run	2
No frame of reference/ What is the acceptable amount/ Can't compare it/ Need to know more	2
3.5 star (only)/ 246kWh (only)/ Energy rating of 246kWh (only)	1
Size of motor/ Strength of power/ Speed/ How much power it has	1
Comparison -To other fridges to determine efficiency/Influences decision/ compare to other models to understand energy	1
Stars are easier- I look at the star rating	1
Average energy efficiency- Medium	1
Don't like it/ Not the best rating/	0

"How much electricity it uses"

"I would have to ask for assistance to fully understand this option"

"I don't really 100% know what the 246kwh means, so by just going by the star rating is easier to understand and compare"

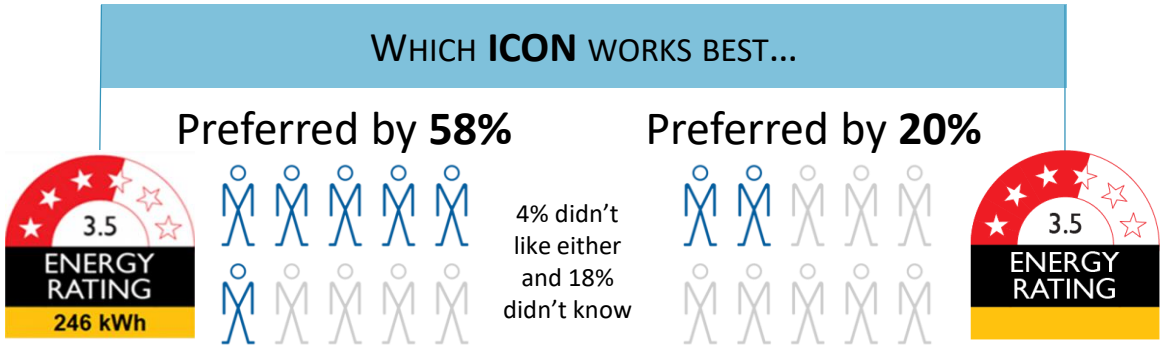
"I'm guessing how much energy is uses"

D3. In as much detail as possible please indicate what you understand the **addition of 246kWh** is telling you about the refrigerator?
Base: *Total sample n=4,818 (open response)*

Preferred Energy Rating Icon
with or without kWh information

Although few understood kWh, the majority (58%) preferred the icon with it included. Most (68%) of those who preferred inclusion of kWh valued its inclusion simply as another objective indication of which one was better (understanding the lower the kWh the better), while some (38%) would use it to calculate the energy cost.

The 20% who preferred the icon without the kWh did so mainly because they didn't understand what the kWh numbers meant (43%) or it was seen as simpler and easier to understand (40%).



Why did you choose with kWh?	Total %
More information available to help decision-making	66
Energy usage/allows comparison/calculating running costs	38
Don't know what the numbers mean, need more information	4
Easy to understand/ Clear information/looks good	3
Confusing - too much information/unnecessary	1
Don't know/ other	3

Why did you choose without kWh?	Total %
Enough information available to help decision-making	10
Energy efficiency rating /information allows comparison	6
Don't know what the numbers mean, need more information	43
Easy to understand/ Simpler/ Clear information/looks good	40
Confusing/unnecessary	13
Don't know/ other	4

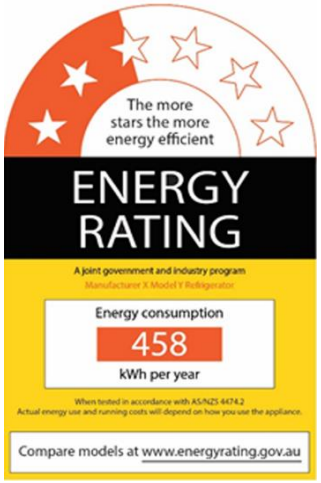
"You need the actual kWh to know the power consumption. Can't determine which appliance is cheaper to run if they have similar stars"

"I don't know what the bottom number means so I wouldn't be looking for it."

D4a. Which image would you find most helpful and effective when looking online to choose a refrigerator to buy for your home?
Base: *Total sample n=4,818 (single response)*
D4b. Please tell us why you made the selection you did? ***Base:*** *Those who selected an image n=3,871 (open response)*

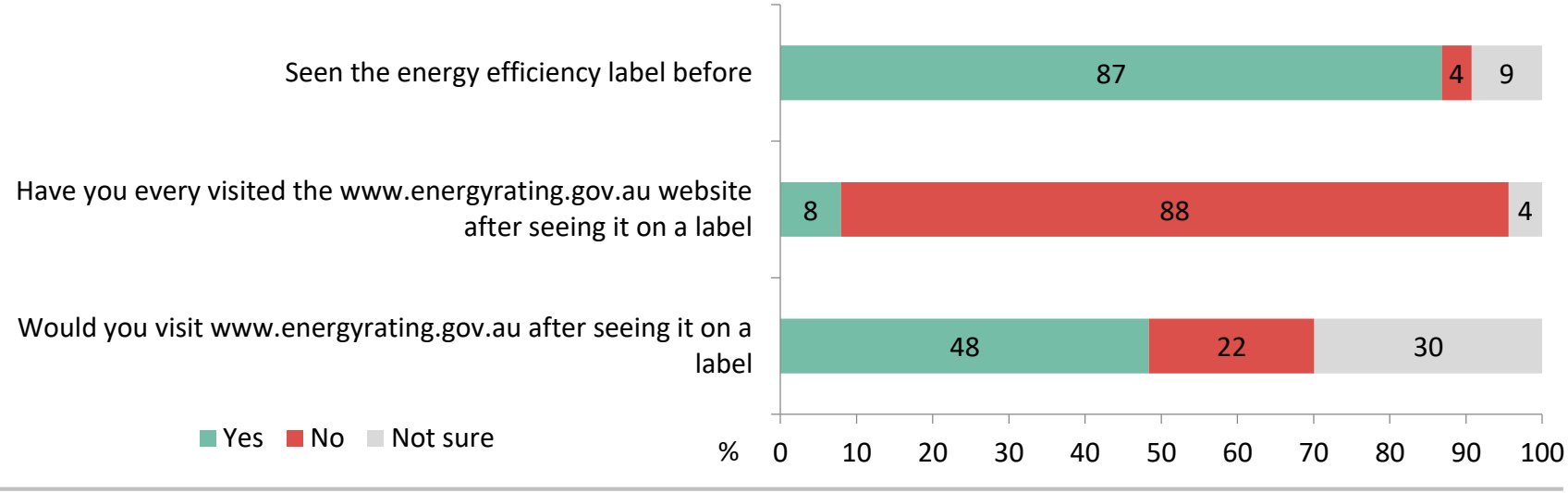
Knowledge and interaction with the Energy Rating Label

used in bricks and mortar stores



After participants were asked to provide their responses to the icon with the inclusion or not of kWh, they were asked whether they had ever seen the Energy Rating Label on appliances in a store. Close to nine in ten participants recognised the label—9% were unsure but 4% said 'no'. This high level of awareness and familiarity with the label used in bricks and mortar stores was reflected in the earlier results on why most participants responded positively to the icon based on the concept of more stars equals a more efficient fridge and the three visual indicators (the stars, the number and the red fill).

While close to half (48%) of all those surveyed reported they would visit the website after seeing it on the label, only 8% had tried to find out more after seeing the label in the past.



D10. Before participating in this study, have you ever seen this energy efficiency label on appliances in a store? ***Base:*** *Total sample n=4,818 (single response)*
D11a. Have you ever visited the www.energyrating.gov.au after seeing it on a label? ***Base:*** *Total sample n=4,818 (single response)*
D11b. Would you visit www.energyrating.gov.au if you notice it in the future? ***Base:*** *Total sample n=4,818 (single response)*

5

Size and position of the Energy Rating Icon

Size and position of the Energy Rating Icon

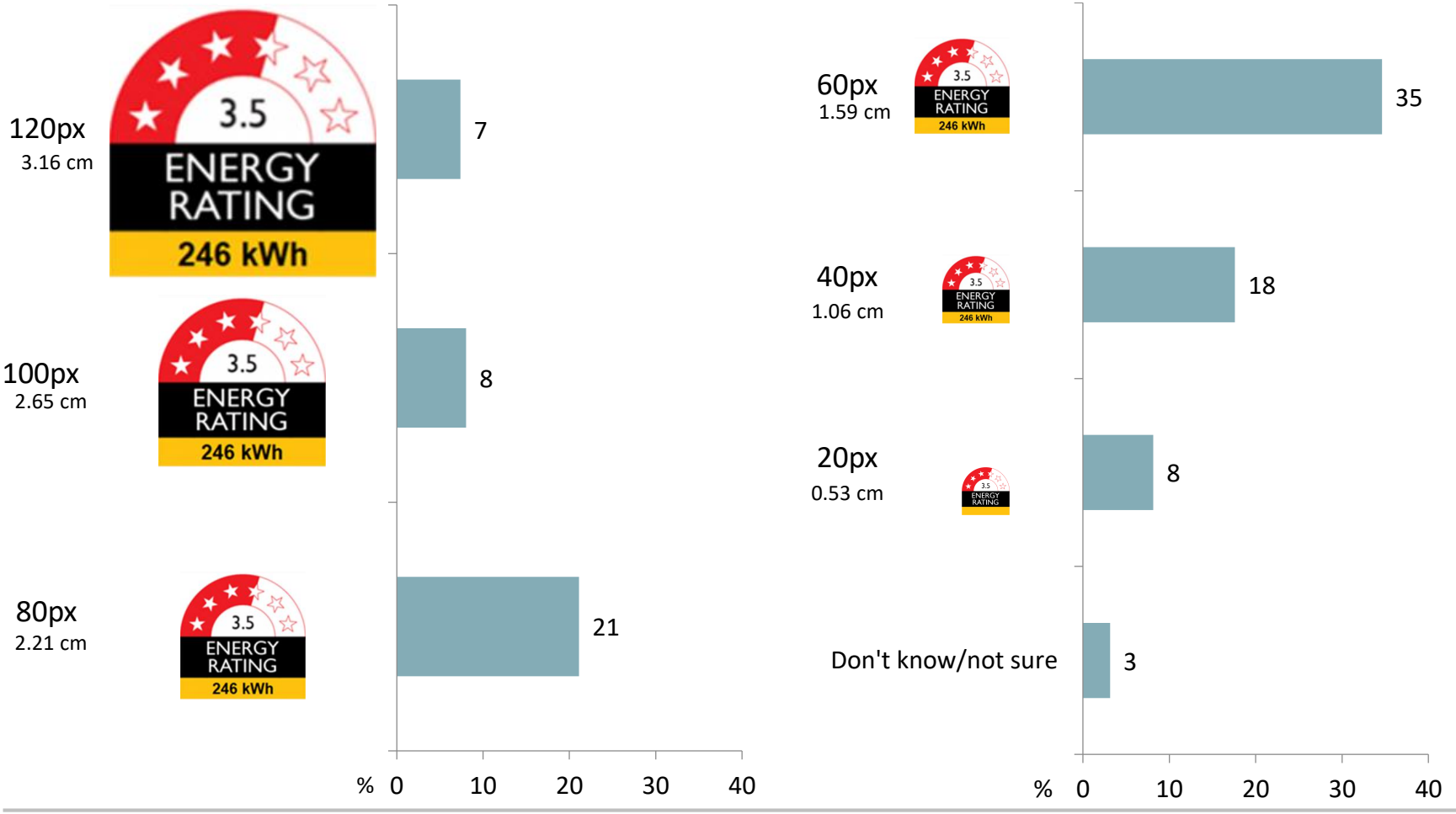
Summary from testing the size and position required to have an impact

- In this section of the research the size and position of the Energy Rating Icon, and specifically on an individual product webpage, was explored.
- The survey and the qualitative research both found that the icon started to become too small on the screen for a significant proportion at 80px (2.21 cm) and had become too small for a majority (71%) at 60px (1.59 cm). **Therefore an icon with a minimum size of 100px (2.65 cm) would be preferable and particularly no smaller that 80px (2.21 cm)**.
- When shown how it could appear on a product page, the larger the size of the icon the greater the impact with six-in-ten (59%) having indicated they would notice the largest image at 80px, 2.21 cm), while just under a quarter (22%) selected image 2 (60px, 1.59 cm) and only just over one in ten (12%) selected image 1 (40px, 1.06 cm).
- **The largest icon tested on a product page at 80px or 2.21 cm (image 3) was selected by respondents because they felt it was prominent, eye catching and was easy to read**. Participants who chose image 2 (60px, 1.59 cm) did so because it was balanced between being big enough to notice but not too overbearing. Whereas those who chose image 1 (40px, 1.06 cm) felt it gave equal balance to energy rating as other product features.
- The survey and cognitive testing also presented six different positions for the icon on an individual product webpage and asked participants to indicate which position would most likely result in them noticing the energy rating when consider whether to buy a fridge. **In summary, the majority of participants indicated the icon was most likely to be noticed if it was towards the top of the webpage** either to the left of the fridge (taking advantage of the top left to bottom right eye movement and the attraction of the fridge image), mid page (between the fridge image and the price and other key product details), or to the right immediately next to the price and other key product details.

When the size of the Energy Rating Icon

becomes too small on the screen

Participants were shown the icon at different sizes in the survey. The icon started to become too small on their screen for a significant proportion at 80px (2.21 cm) and had become too small for a majority (71%) at 60px (1.59 cm). Therefore a minimum size of 100px (2.65 cm) would be preferable and particularly no smaller than 80px (2.21 cm).



D5. At what size does the image **become too small** on the screen for you?

Base: *Total sample n=4,818 (single response)*

Further testing on the size of the Energy Rating Icon

required to have an effective impact on the decision-making process

The results on the previous page are supported by a further test undertaken with participants in the survey with different sized icons present on an example product page similar to those shown in online stores. The larger the size of the icon the greater the impact with six-in-ten (59%) having indicated they would notice image 3 (at 80px, 2.21 cm), while just under a quarter (22%) selected image 2 (60px, 1.59 cm) and only just over one in ten (12%) selected image 1 (40px, 1.06 cm). Participants were allowed to provide more that one response to this question.

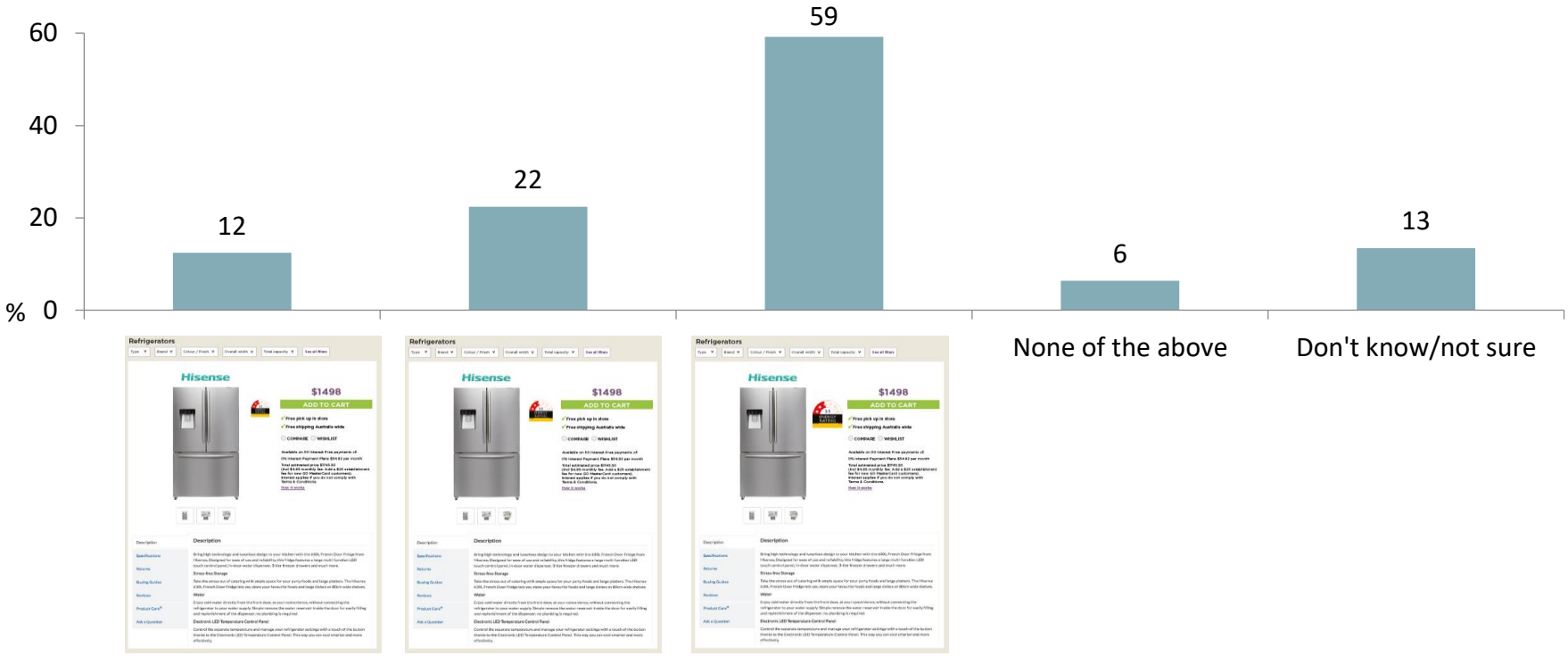


Image 1
40px, 1.06 cm

Image 2
60px, 1.59 cm

Image 3
80px, 2.21 cm

D8. Which of the following image sizes used on the webpage will **most likely result in you noticing** the energy efficiency rating?
Base: *Total sample n=4,818 (multiple responses allowed)*

Reasons for choosing the size of the Energy Rating Icon

they believe would most likely result in being noticed

The largest icon tested on a product page at 80px or 2.21 cm (image 3) was selected by respondents because they felt it was prominent, eye catching and easy to read. Participants who chose image 2 (60px, 1.59 cm) did so because it was balanced between being big enough to notice but not too overbearing. Those who chose image 1 (40px, 1.06 cm) felt it gave equal balance to the energy rating as other product features.

Image 1

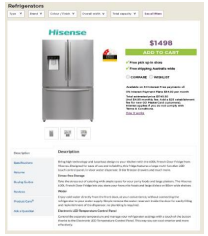


Image 2

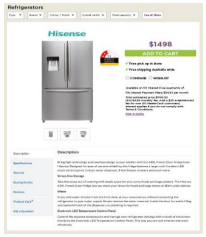


Image 3

	Chose image 1 Total %	Chose image 2 Total %	Chose image 3 Total %
Larger/Bigger- Bigger is better/ Prominent/ Biggest/ Large size sticks out	6	14	56
Easy to see - noticeable/ stands out/ eye catching/ colour helps	23	22	30
Easy to read- informative/ understanding/ clear	17	14	15
Not too big not too small-average size suits all/not over the top/not overwhelmingly big/big enough not to get lost	8	27	3
All equal impact- all the same	26	15	6
Important- Makes it a must read/ Bold attracts attention/ useful/ used to make product comparisons	1	2	4
General size comments- Too small/ gets lost/ perfect size/ obvious/ needs to stand out as I am not focused on that/	3	4	3
Position- better/ best spot/ good lay out	5	4	2
Too Big - its 'in your face'/ Too overpowering/ Excessive	1	4	0
Smaller images- preferred/ not main focus	0	1	0
Not easily visible	0	0	1
Other	12	9	3
No/ Nothing	3	2	1
Don't know	3	0	1

"The bigger the image, the easier to see."

"...stands out more, easy to read and makes it very clear."

"The more in your face the more you might consider the rating as part of your choice."

D9. Please tell us why you made the selection/s you did.

Base: *Those who selected an image size n=3,937 (open response)*

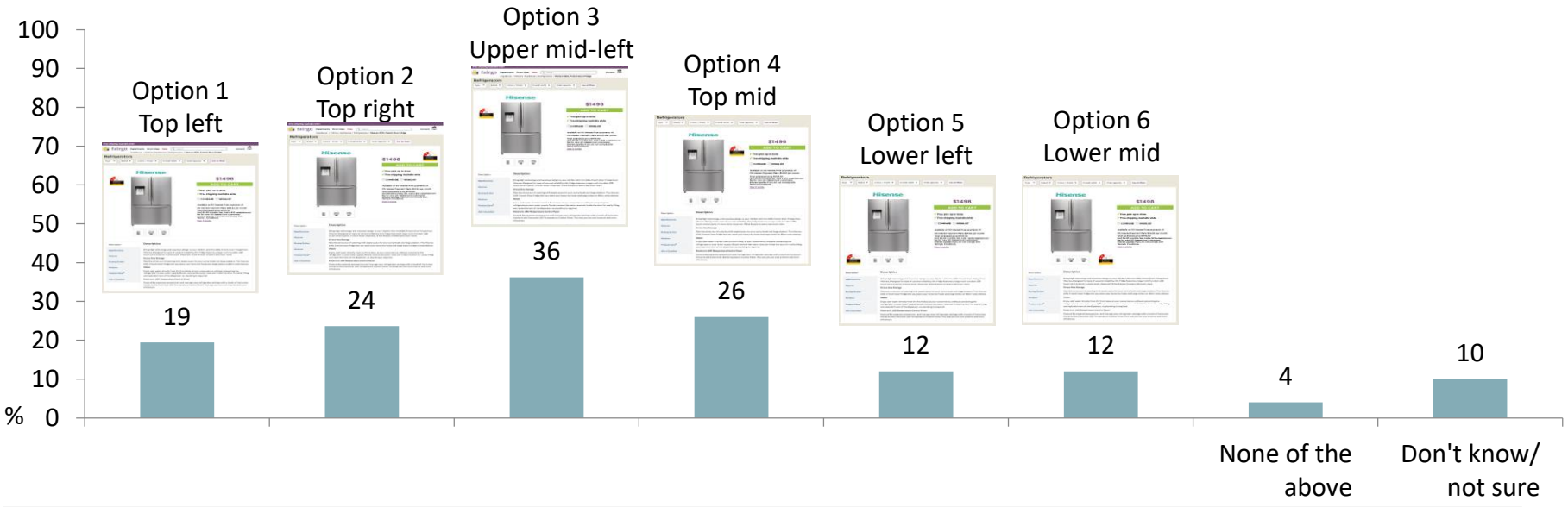
Denotes significantly higher

The position on the webpage where the Energy Rating Icon

would most likely result in it being noticed and considered in decision-making

The survey also presented six different positions for the icon on an individual product webpage and asked participants to indicate which position would most likely result in them noticing the energy rating. Layout option 3 (with the logo on the upper mid-left of the fridge but slightly lower than in option 1) was most preferred at 36% followed by positions top mid screen (26%) or the far top right hand side of the screen (24%) next to the price and other key product details. The next preferred at 19% was at the top left-hand side of the screen next to the fridge image. The two options with the icon lower on the screen was the least preferred.

In summary the majority of participants indicated the icon was most likely to be noticed if it was **towards the top of the webpage** either to the left of the fridge (taking advantage of the top left to bottom right eye movement and the attraction of the fridge image), mid-page (between the fridge image and the price and other key product details), or to the right immediately next to the price and other key product details. The next page provides participant reasons for their preferences. Participants could choose more that one option in their response.



D6. Imagine you are visiting the webpage for a particular refrigerator. Which of the following positions on the webpage will most likely result in you noticing the energy efficiency rating when considering whether to buy a refrigerator? You can indicate if one will have most impact or if two or more will have equal impact or if none will have impact. ***Base:*** *Total sample n=4,818 (multiple responses allowed)*

Reasons for preferred position of the

Energy Rating Icon cont.

Being easy to see the icon and having it near other important information (such as the image, key specs and price) is crucial.

Reasons for choosing…	Option 1 (%)	Option 2 (%)	Option 3 (%)	Option 4 (%)	Option 5 (%)	Option 6 (%)
Drawn to first/ Stood out/ Grabs your attention/ Easy to identify	44	28	35	29	36	32
Information and specifications - when you look for information you will see it	3	14	3	18	25	16
Locate near price/ Price is the first thing a person looks at	1	22	1	18	1	2
Picture of the fridge - People look at the fridge first	12	5	13	17	5	6
Easy/clear lay out- Positioning/Flow/Aligned/ Out of the way	6	12	6	9	7	15
Left to right and top to bottom - as we read/scan left to right	11	2	11	2	5	1
Looks better/personal preference	4	5	6	3	4	4
At the top	8	7	5	5	-	<1
Central/eye level	3	2	6	8	2	3
Left side/Top left corner	8	<1	7	<1	1	-
Easy to read and understand	3	1	3	4	2	3
Well placed nothing around it - No information overload	3	1	6	2	3	4
All relevant information provided - All I needed to know	2	2	2	2	3	3
All the same/no real difference	4	6	7	5	10	11
Right hand side/Top right corner	1	4	1	3	1	-
Front - of product	2	1	2	<1	-	-
Down - below product	<1	<1	<1	<1	4	2
On the side	<1	<1	1	-	<1	-
Brand- Near the brand	<1	<1	-	-	-	-
Other	1	2	2	2	2	2
Doesn't matter where it is	1	1	1	1	2	2
Don't know	2	2	2	3	2	3

"It is on the main screen and easy to see, it is in my line of vision when I look at the product but it isn't in the way."

"My left eye is stronger than my right, so I am always attracted to the left hand side of things."

"Top of the page - more important."

"It's more in line with the structure of the page. The others look like the page hasn't loaded properly."

"Very prominent area that catches your eye."

D7. Please tell us why you made the selection/s you did.

Base: *Those who chose a preferred image position Total n=4,246. (open response)*

Denotes significantly higher

6

Online shopping and decision-making behaviours

Online shopping and decision-making behaviours

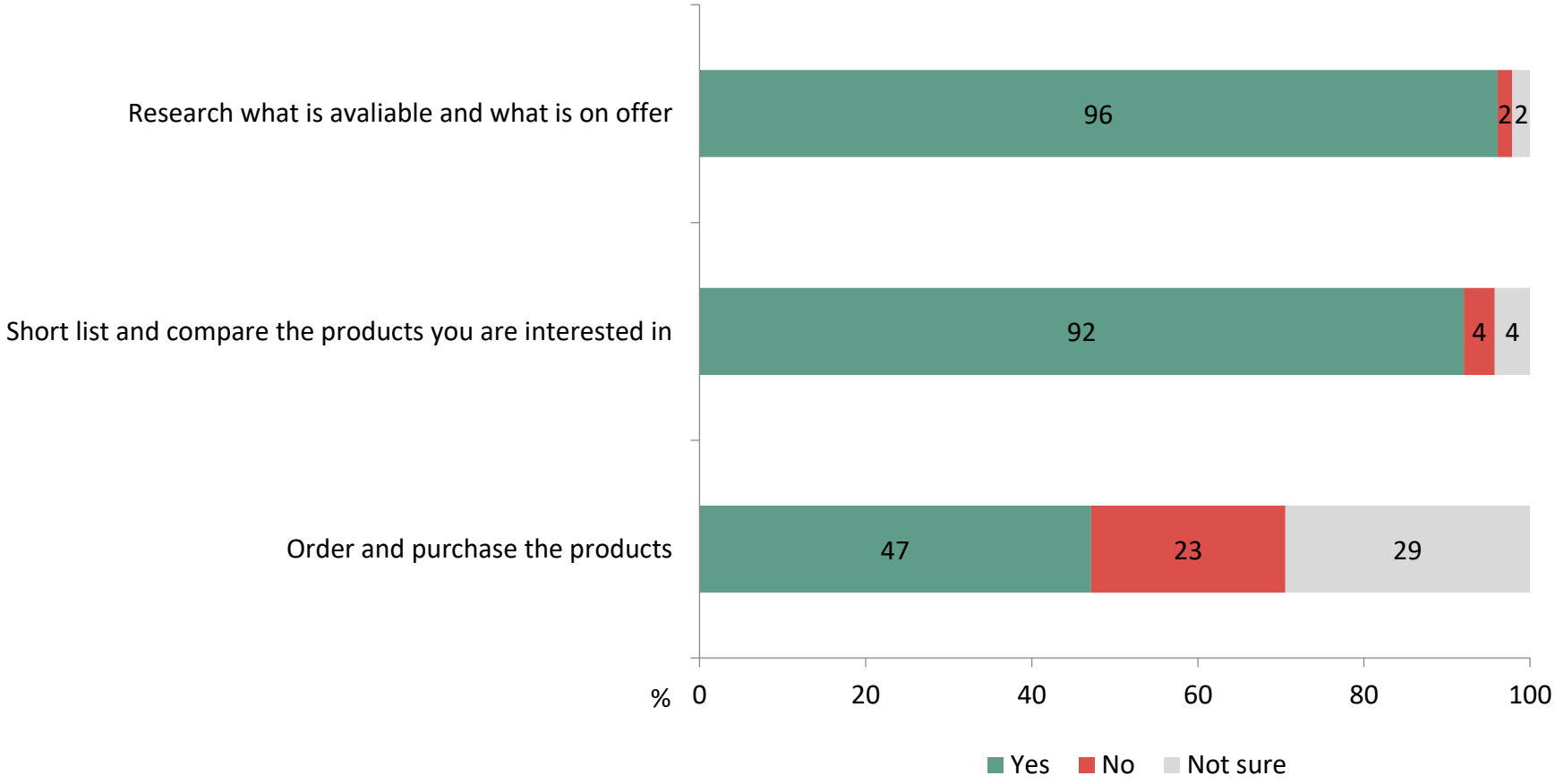
Summary from exploring online shopping and decision-making for analysis

- As part of the research and analysis participants' online shopping and decision-making behaviours were explored.
- When it came to purchasing appliances like a TV, freezer, fridge, washing machine, dryer or dishwasher, nine in ten participants would research what was available and make comparisons online, but only 47% would actually make the purchase online. Three in ten (29%) were uncertain whether they would purchase the appliance online or not.
- Close to half (45%) had bought products online in the last month. However, generally they were more likely to have searched for information online and then bought from a bricks and mortar store (92% in last 12 months) compared to researching in physical stores and then buying online (66%). Seven in ten had visited a price comparison website.
- Overall, when spending $50 or more, participants were most likely to have purchased products (except books) in a bricks and mortar store than online. Consumers were 2.5 times more likely to have bought electrical household appliances in a bricks and mortar store compared to online. In addition, most (62%) participants indicated they would most likely buy a fridge in a physical store and this was because it gave them a greater sense of security and believed they would be able to bargain and ask questions. Those who preferred online stores said they offered efficiency in the purchase process, reducing the time required, reduced distractions, and greater ability to shop around (e.g. on price).
- When shopping online generally, and specifically for a fridge, participants were more likely to indicate they have and would use computer (including laptops) compared to other devices.
- Price and size or capacity were consistently ranked the main factors when considering purchasing a fridge, washing machine or TV. Energy efficiency was rated the third most important factor when choosing a fridge or a washing machine, and fourth when buying a TV.
- Nearly all brands that would be normally be considered and preferred by participants were covered in the experiment and while up to 18% indicated they would consider a brand not included, only 1% would prefer such a brand. Analysis also indicated those participants' results did not significantly differ from others, and all had other brands that they would consider or prefer included in the experiment. Feedback in the cognitive testing suggested that brand was closely associated with perceived quality and that few people if any factored energy efficiency into their thinking about whether to shop online or in a physical store (with none aware that energy ratings might not appear in online stores).

Whether the internet would be used

for researching, comparing and purchasing household electrical appliances

While nine in ten of those surveyed indicated they would research what was available and make comparisons online when it came to an appliance like a TV, freezer, fridge, washing machine, dryer or dishwasher, only 47% actually made the purchase online. Three in ten (29%) were uncertain whether they would order and purchase such appliances using the internet.



A5. When it comes to you purchasing an appliance like a TV, freezer, fridge, washing machine, dryer or dishwasher, would you ever use the internet to…?
Base: *Total sample n=4,818.(single response for each activity)*

The shopping behaviour of survey participants

in the last 12 months

Close to half (45%) had bought products online in the last month.

Participants were more likely to have searched for information online and then bought from a bricks and mortar store (92% in last 12 months) compared to searching for information in physical stores and then buying online (66%).

While 71% had visited a price comparison website, 39% had done it only once a quarter or less often.

	Once every week or more often	Once every two weeks	Once a month	Once every two months	Once every three months	Twice a year	Once a year	Never
Bought any products online	6%	14%	25%	14%	16%	11%	6%	9%
Searched for information about any product online then bought it in a physical 'bricks and mortar' store	9%	10%	20%	13%	17%	14%	8%	8%
Visited a price comparison website	4%	6%	13%	9%	14%	14%	11%	29%
Searched for information in a physical 'brick and mortar' store and then bought the product online	2%	5%	12%	9%	13%	13%	13%	34%

E1. Over the last 12 months, how often have you done the following…?

Base: *Total sample n=4,818 (single response per activity)*

Denotes significantly higher

Types of appliances purchased by survey participants

in the last 12 months and they plan to purchase in the next 12 months

A third of the sample had purchased a television (32%), laptop (32%) or a kettle (38%) in the last 12 months. A similar proportion planned to purchase a television (35%) or a laptop (35%) in the next 12 months. Given the difference in purchases and planned purchases, kettles appear to be an unplanned purchase while fridges and freezers appear more likely to be planned purchases.

	Purchased within the last…			Consider purchasing within the next…		
	3 months	4-12 months	Not applicable	3 months	4-12 months	Not applicable
Television	10%	22%	68%	9%	26%	66%
DVD Blu-Ray Player	5%	10%	85%	5%	10%	86%
Sound System	7%	12%	81%	5%	15%	80%
Freezer	4%	7%	89%	3%	9%	88%
Fridge (incl. combined fridge-freezer)	7%	15%	77%	6%	17%	77%
Washing machine	6%	17%	76%	5%	13%	82%
Dryer	3%	8%	89%	4%	11%	85%
Dishwasher	5%	11%	85%	4%	11%	85%
Microwave	7%	16%	76%	6%	14%	80%
Kettle	14%	24%	62%	8%	15%	78%
Laptop	12%	20%	68%	9%	26%	65%

A4. Please indicate for the following if you… **i.** Purchased any… *(single response per item)* **ii.** Considered purchasing any… *(single response per item)*
Base: *Total sample n=4,818.*

Whether certain products worth $50 or more have been bought

online or at a bricks and mortar store in the last 12 months

Overall, when spending $50 or more, participants indicated they were most likely to have purchased products (except books) in a bricks and mortar store than online.

In particular participants were 2.5 times more likely to have bought electrical household appliances worth $50 or more at a bricks and mortar store compared to online.

	Online	Bricks and mortar store	Not applicable
Electric equipment (incl. computer, phone, camera)	32%	45%	33%
Clothes, shoes and jewellery	48%	67%	12%
Books	37%	30%	44%
CDs/DVDs/computer games	28%	33%	50%
Electrical household appliance	22%	55%	32%
Furniture	10%	44%	49%
Sports and outdoor equipment	18%	34%	54%
Food	26%	81%	12%

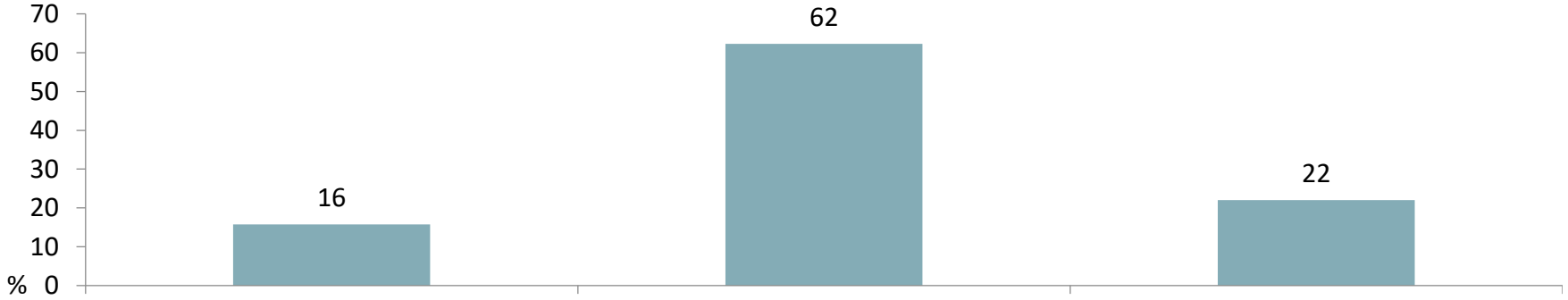
E3. Thinking only about occasions in the last 12 months where you spent $50 or more, which of the following type of products did you purchase? ***Base:*** *Total sample n=4,818 (single response per item listed)*

Denotes significantly higher

Where participants would make the purchase and why

for a refrigerator specifically

Most (62%) participants indicated they would most likely buy a fridge in a physical store because it gave them a greater sense of security and they believed they would be able to bargain and ask questions. For those who preferred online stores, they indicated it was because they offered efficiency in the purchase process—reducing time required, reduced distractions, greater ability to shop around (e.g. on price) and therefore contributing to a more efficient conclusion.



Reasons for buying in an online store	Reasons for buying in a 'bricks and mortar' store	What does it depend on
"No pressure and can see all information at hand."	*"See the item in person."*	*"Depends on price and delivery."*
"Not having to travel and waste time physically going from store to store."	*"If there was a warranty concern, it's better to deal within store."*	*"The availability of product."*
"Its easier to shop online than taking three kids shopping."	*"Better bargaining power"*	*"I would buy online if I knew the retailer well and it had the best price but only after having seen the fridge physically."*
"Most likely to get the best price."	*"To ask questions, its just the way I have bought these type of products in the past."*	*"If they have it in stock at the right price."*
"No distractions from salespeople."	*"I prefer to research product online but I like to see in person and look over it first."*	*"I have surety of warranty legislation compliance."*

C4a. If you were to actually buy one of the refrigerators, where would you be **most likely** to do this? ***Base:*** *Total sample n=4,818 (single response)*
C4b. Why would you be most likely to do this? ***Base:*** *Those who said they would purchase from an online store n=811 (open response)*
C4c. Why would you be most likely to do this? ***Base:*** *Those who said they would purchase from a 'bricks and mortar' store n=2,911 (open response)*

The reasons (in more detail) why participants indicated

they would be most likely to buy a fridge via an online store

Those who indicated they would be most likely to buy a fridge in an online store stated convenience and ease as the main reasons for this. They also believed it was a better way to compare all the available deals and to avoid the pressure of a sales person.

Why would you be more likely to do this in an online store?	Total %
Convenience- require assistance to go places/disabled cant move about easily/difficult location/parking avoided/...	24
Easier- to use/ to shop/ is O.K./ speed of purchase	23
Price- cheaper/ best deals online	19
To compare - models/ specifications/ range/ review easy to read/ compare features	17
No pressure - hate shopping in person/No contact with sales people/ avoid pushy sales people	12
Delivery - usually included/ look for a site including delivery	
Time - any time I want/ while I am at work/ Saves time/ quicker	12
In person - see it first in person/ touch and feel it/ warranty issues	10
Order - easily/ ease of purchase/ decision-making/ fast	4
Online - on the net/ other benefits such as loyalty points/ do most online/ coupon code for discount	4
Information - available on hand	4
Will take old one away	3
Past experience- good/ shopped before and it was a success	3
Other	1
Don't know/ nothing said	4

"Easy. Don't need to see the fridge in person."

"Research product. Check surveys. Compare prices."

"Easy delivery options and mostly free installation."

"Convenience and usually cheaper and easier to price."

No sales people talking me into another fridge not on my list- minimal interference.

C4b. Why would you be most likely to do this?

Base: *Those who said they would purchase from an online store n=811. (open response)*

The reasons (in more detail) why participants indicated

they would be most likely to buy a fridge via a bricks and mortar store

Those who said they would most likely purchase a fridge from a 'brinks and mortar' store would do so because it allowed them to view the fridge prior to purchase and ensure the size was correct. They also indicated that being able to communicate to someone face-to-face and ask questions was important and might mean they were able to secure a discounted price.

Why would you be most likely to do this? (other)	Total %
View prior to purchase- Feel and touch it/ examine quality/ see finish/ exact size as photos are definitive/	80
Communication- Can speak to someone face to face/ask salesman opinion/ask questions/professional advice/	14
Price - Bargain /can haggle/ on big purchases	10
Customer service-Warranty discussed/Returning policy/Physical place for returns/Easier to return/pay in person(cash)	5
Delivery - Costs/ faster/ included in the price/ good deal in store/ reduced/free	5
Easier/Faster-decision-making/ comparisons/	4
Research online then go and see the product in store	3
Don't shop online- Don't trust it/prefer stores	2
Support local business/ keep people in there jobs/	2
Pick up - prefer as shipping is expensive/ live in rural area/ long distance	1
Trustworthy/ Safety	1

%

"I like to speak to a human as I may have questions and may need them to explain. Online it can be quite cold."

"You are able to haggle more in store to reduce price and get extras like reduced/free delivery."

"I like to see the inside configuration of shelves and compartments."

C4c. Why would you be most likely to do this?

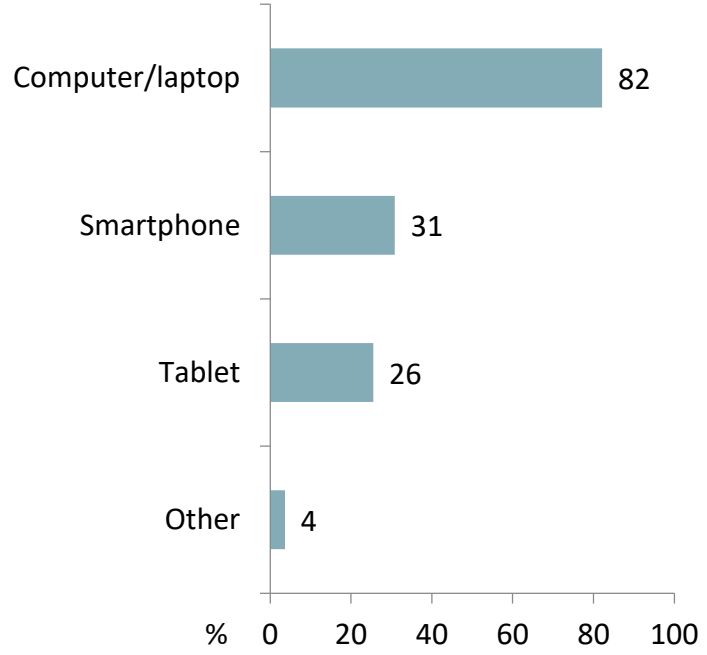
Base: *Those who said they would purchase from a 'bricks and mortar' store n=2,911*

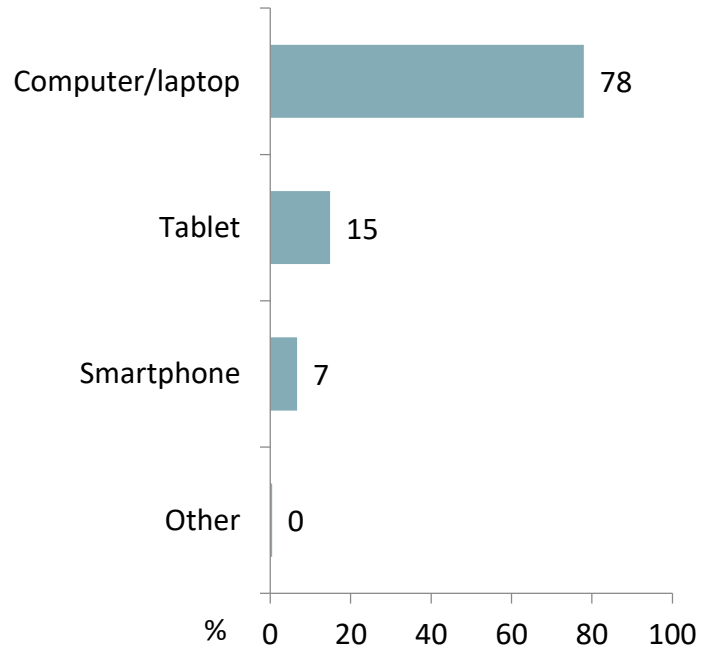
Devices used to make online purchases in general

in last 12 months and would use specifically when shopping for fridges

Participants indicated that when shopping online in general in the last 12 months, they were more likely to use computers/laptops compared to other devices.

Similarly, if they were to research or buy a fridge online, the majority of participants indicated they would use a computer/laptop (78%) and significantly fewer would use another electronic device. This suggests that fridges are more likely to be a considered purchase (requiring the ability to consider a number of things in detail and potentially with input from other household members) that cannot be made while on the move or by viewing in a small screen.





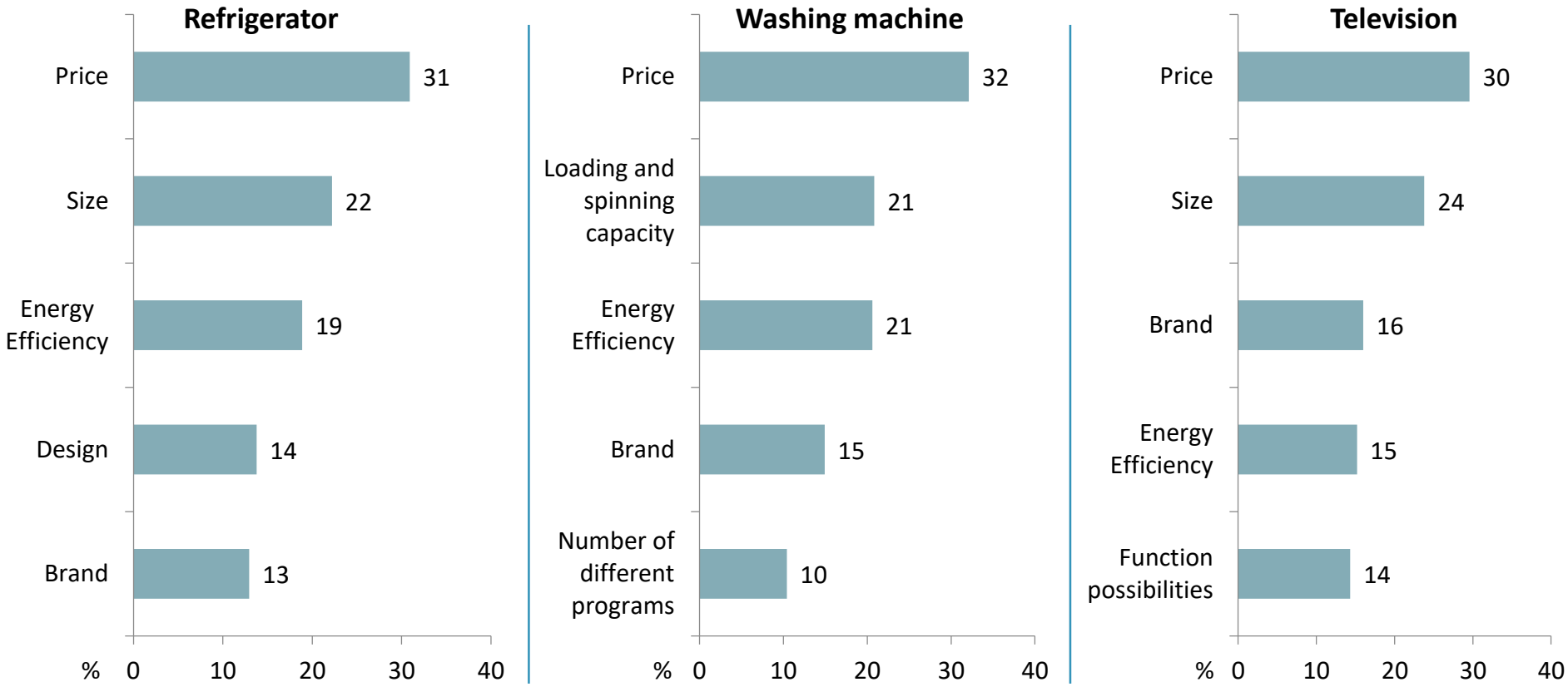
E2. Over the last 12 months, which devices have you used to make online purchases? (M/R)
C5. If you were to actually research or buy one of the refrigerators in an online store, which device would you be most likely to use? (S/R)
Base: *Total sample n=4,818*

The relative importance of certain buying factors

when making the choice of a household electrical appliance

Survey participants were asked to rank the importance of certain buying factors if they were making their choice of a fridge, washing machine or TV for their household.

Price and size or capacity were consistently ranked the main factors. Energy efficiency was rated as being the third most important factor when choosing a fridge or a washing machine, and fourth when buying a television.



E4. How important would the following factors be to you when making your choice of…?

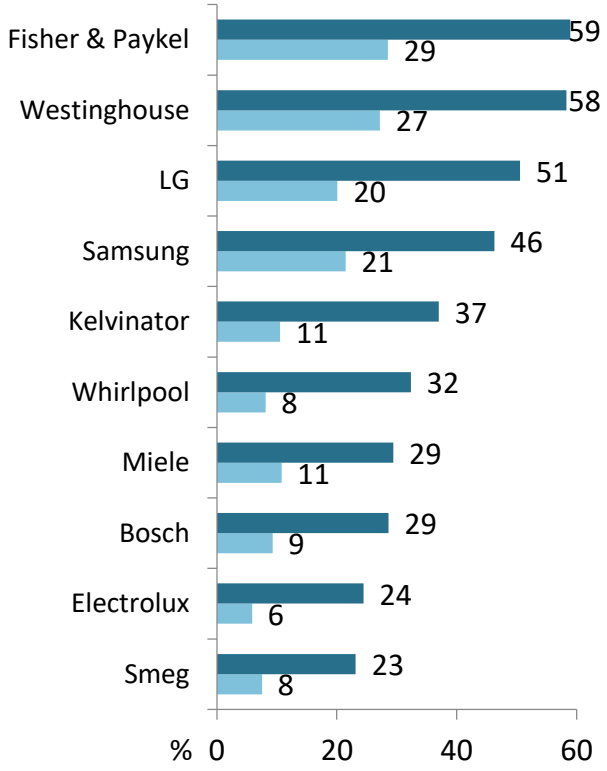
Base: *Total sample n=4,818 (single set of rankings for each appliance type)*

Whether the brands of fridges in the experiment covered those

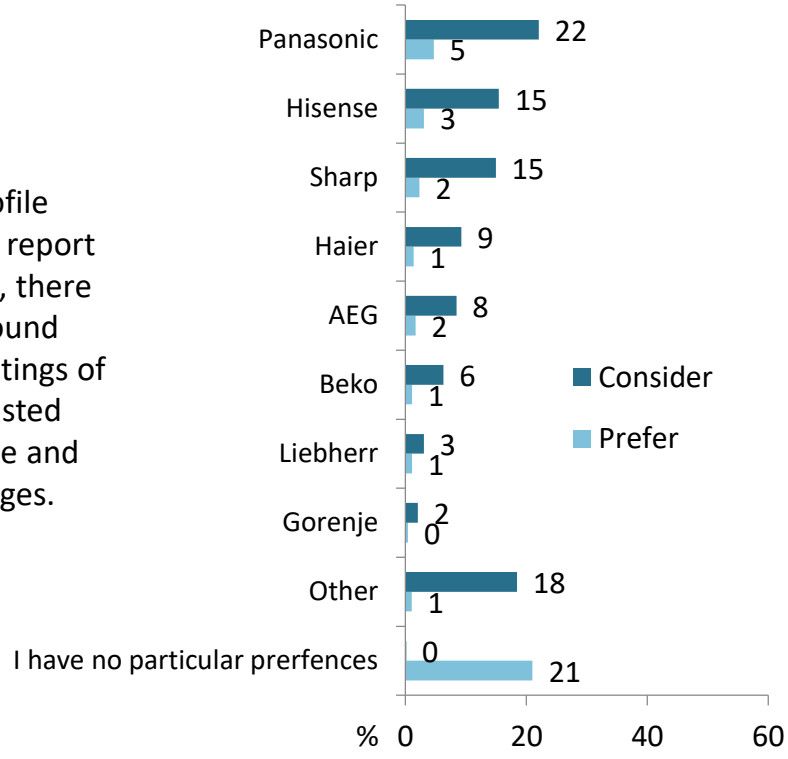
participants would consider and prefer, and the impact of the brands

Before completing the first stage of the experiment, participants were asked whether there was a brand they would consider or prefer if they were looking to buy a bottom mount fridge. This was to further check that the key brands people would want to include in their consideration set were included in the experiment and enable analysis on any impact of brand. Nearly all brands that would be considered and preferred by participants were covered.

While up to 18% indicated they would consider a brand not included in the experiment, only 1% would prefer such a brand. Analysis also indicated those participants' results did not significantly differ from others and all had other brands that they would consider or prefer included in the experiment.



As shown in the profile tables earlier in the report on pages 34 and 35, there was relationships found between the star ratings of the products shortlisted and ultimately chose and some brands of fridges.



B0. But before you proceed to the next screen, if you were looking to buy a bottom mount refrigerator for your household, which of these brands would you…
i. Consider…? ***Base:*** *Total sample n=4,818. (multiple responses allowed)* **ii.** Prefer…? ***Base:*** *Total sample n=4,027. (multiple responses allowed)*

7

Attitudes and drivers to planned and sustainable behaviour

Attitudes and drivers to planned and sustainable behaviour

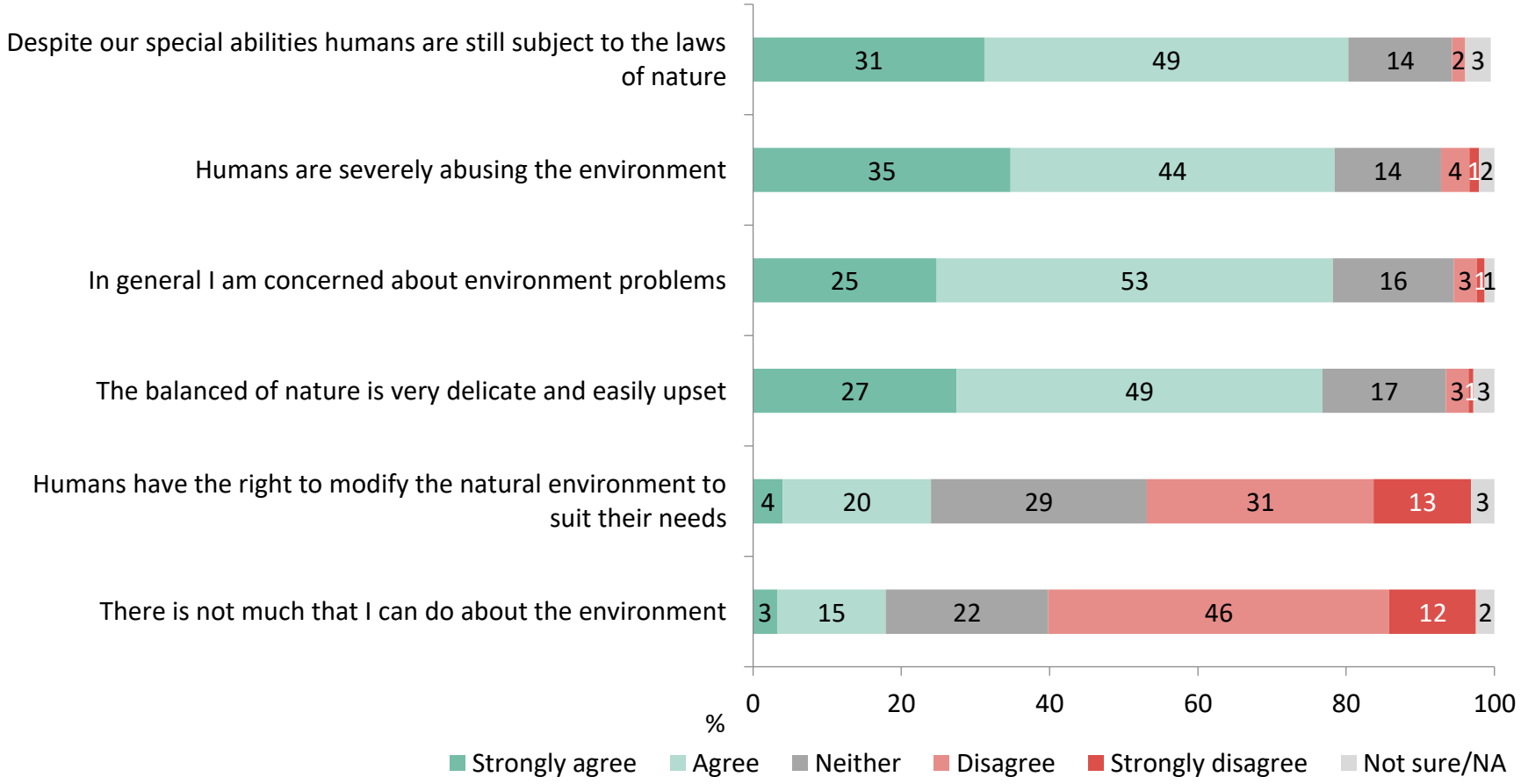
Summary from exploring environmental attitudes and behaviours

- As part of the research and analysis, participants' attitudes to the environment and their sustainable intentions and behaviours were explored. This included testing whether these attitudes and behaviours acted as drivers in the fridges shortlisted and selected in the experiment, and whether they were drivers to sustainable behaviours more generally.
- Participants generally indicated they were concerned about environmental problems and believed humans were impacting and abusing the environment. More than half (58%) disagreed that there was nothing they could do to help the environment, while 18% agreed and 22% sat on the fence and neither agreed nor disagreed.
- Eight in ten participants indicated they would reuse plastic bags, turn the lights off when leaving a room, or would use their washing machine at a low temperature. However, 40% said they rarely or never purchased organic or fair trade food items, 32% said they rarely or never used rechargeable batteries, and 31% said they rarely or never turned off standby modes on the TV and other appliances.
- **Half of the survey participants believed energy efficiency was important when purchasing appliances, and 45% thought it somewhat important. Only 4% reported it as not at all important.**
- Approximately one quarter of the participants reported having a solar system installed for electricity and while feedback in the cognitive testing suggested those with a solar system were less concerned with the energy ratings of appliances, the survey found they were more likely to agree that energy efficient was important.
- Most participants (87%) considered it a good idea to buy energy efficient appliances, believed it had become a normal thing to take account of (79%) and were cost effective. However, 30% indicated they had some level of difficulty in understanding which were the most energy efficient and 16% believed they could not afford to choose energy efficient electrical appliances.
- Analysis indicates that participants' environmental attitudes and sustainable behaviours did not have a strong relationship with the star ratings of the fridges shortlisted and chosen in the experiment. It indicated that social norms and product specific beliefs are key drivers for behavioural intentions, and that behavioural intentions, social norms and environmental concerns are they key drivers for actual sustainable behaviour.

Attitudes and perceptions towards the environment

including their individual impact and capacity to do something

Participants generally indicated they were concerned about environmental problems and believed humans were impacting and abusing the environment. More than half (58%) disagreed that there was nothing they could do to help the environment, while 18% agreed and 22% sat on the fence and neither agreed nor disagreed.

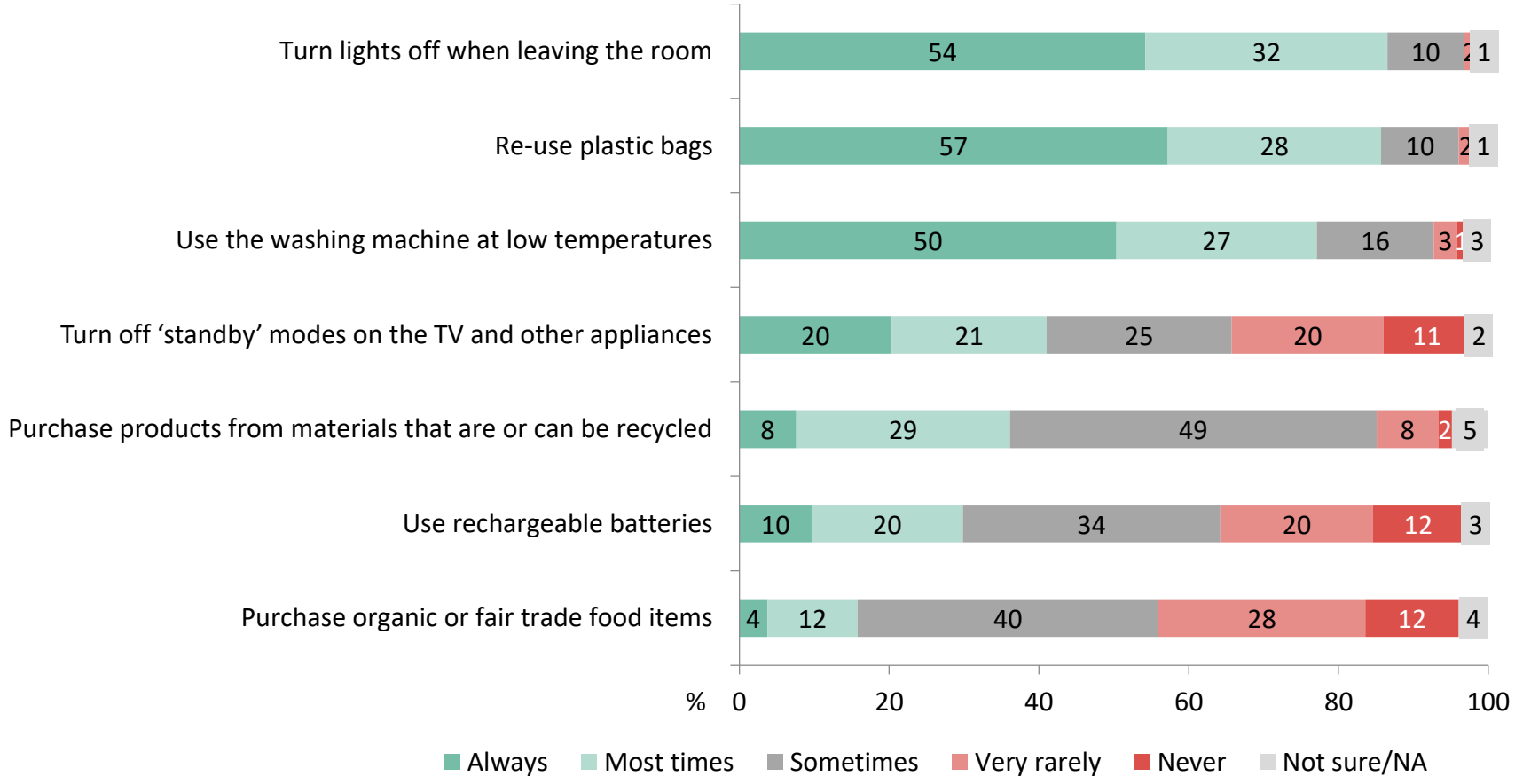


E8. We are now showing you a number of statements about the environment. Please indicate to what extent you agree or disagree with them.
Base: *Total sample n=4818*

Current sustainable behaviours

in relation to the environment and energy use

Eight in ten participants indicated they would reuse plastic bags, turn the lights off when leaving a room, or would use their washing machine at a low temperature. However, 40% said they rarely or never purchased organic or fair trade food items, 32% said they rarely or never used rechargeable batteries and 31% said they rarely or never turned off standby modes on the TV and other appliances.



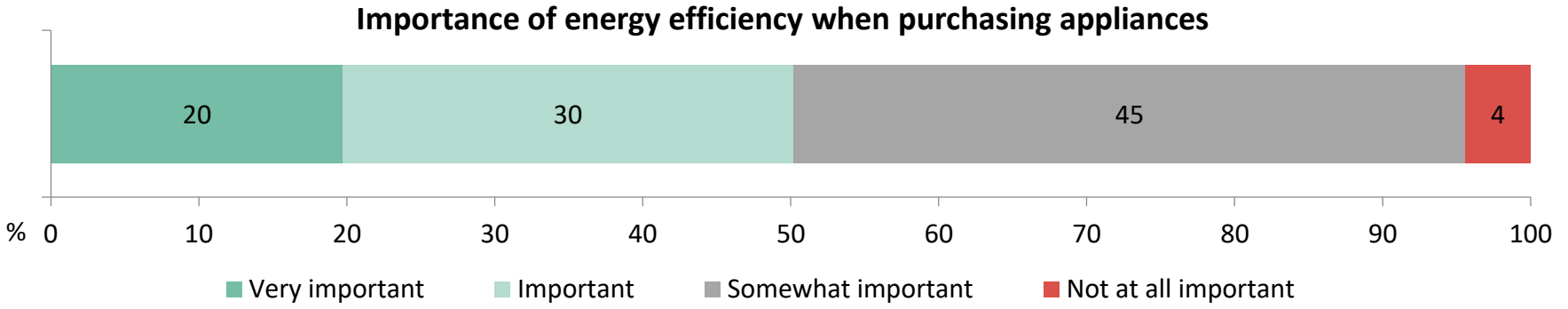
E7a. Based on the following scale, how often do you do each of the following?

Base: *Total sample n=4818*

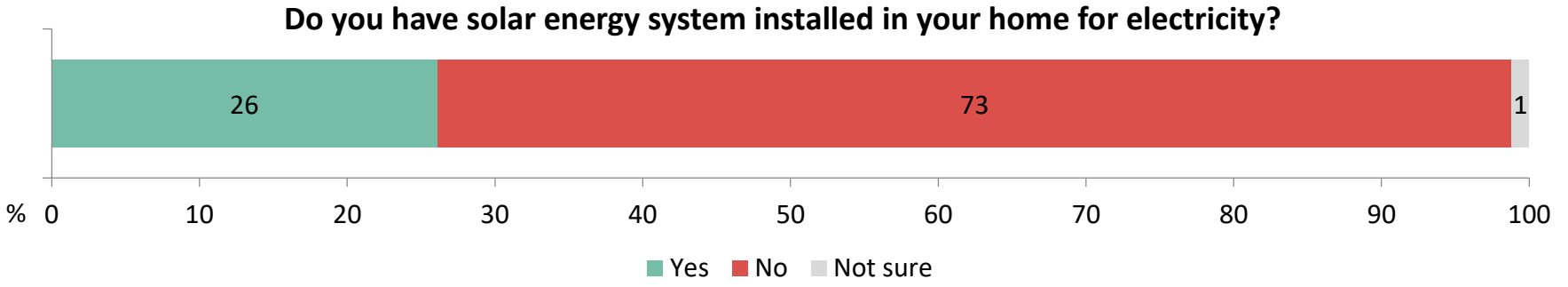
Whether energy efficiency is seen as important when purchasing

appliances and the incidence and impact of having a solar system

Half of the survey participants believed energy efficiency was important when purchasing appliances, and 45% thought it somewhat important. Only 4% reported it as not at all important.



Approximately one quarter (26%) reported having a solar system installed for electricity and while feedback in the cognitive testing suggested those with a solar system were less concerned with the energy ratings of appliances, the survey found they were more likely to agree that energy efficient is important.



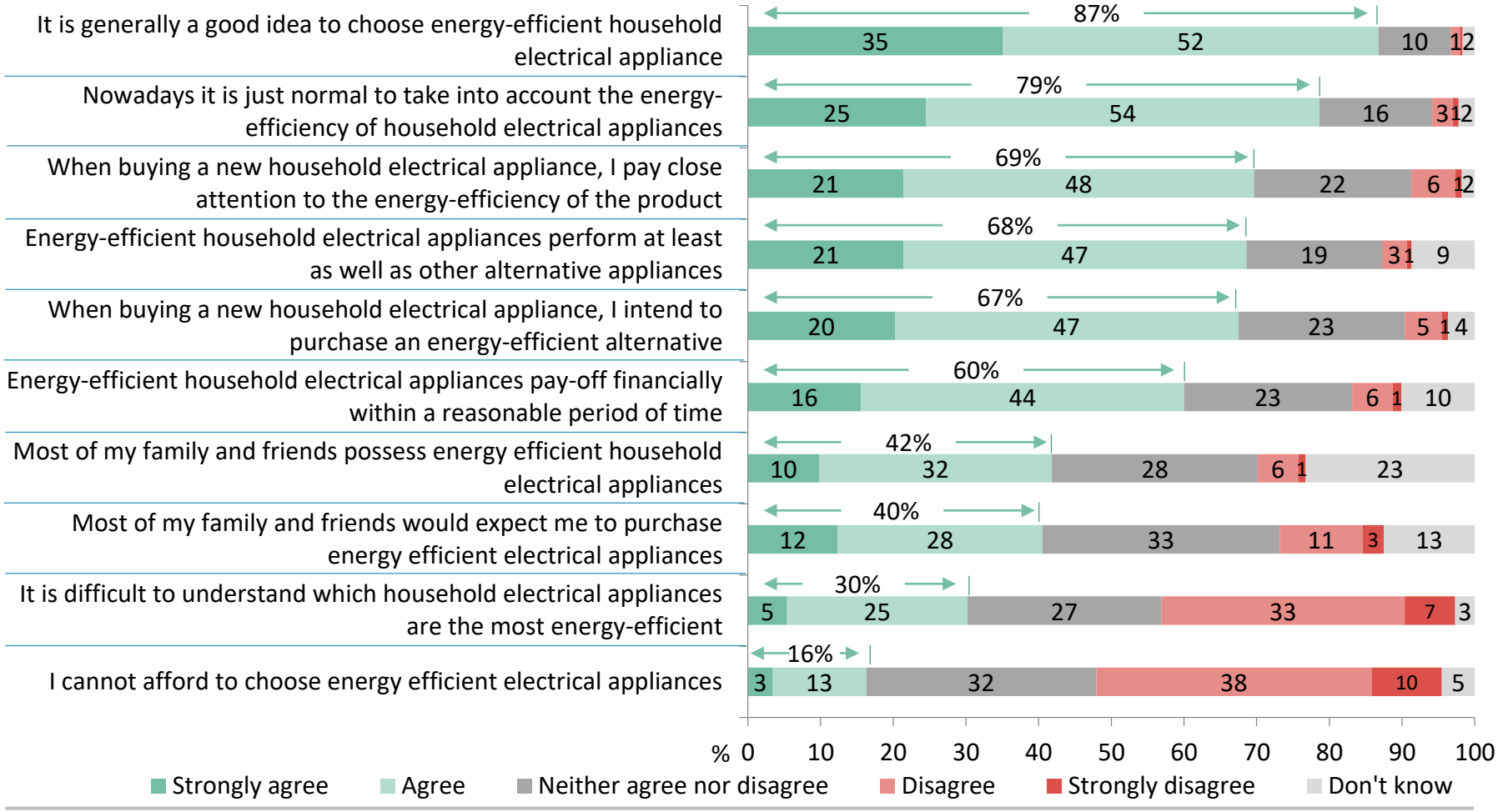
E5. In general how important is energy efficiency to you when you buy household electric appliances (like refrigerators, freezers, washing machines, dryers and dish washing machines)? ***Base:*** *Total sample n=4,818*

E7b. Do you have solar energy system installed in your home for electricity? ***Base:*** *Total sample n=4,818*

Attitudes to and perceptions towards household electrical appliances

and energy efficiency

Most participants (87%) considered it a good idea to buy energy efficient appliances, and believed it had become normal thing to take account of (79%) and were cost effective. However, 30% indicated they had some difficulty in understanding which were the most energy efficient and 16% believed they could not afford to choose energy efficient appliances.



E6. The following statements are about household electric appliances. Please indicate to what extent you agree or disagree with them.

Base: *Total sample n=4,818*

Environmental attitudes and sustainable behaviour

and testing if they were drivers in the energy rating of fridges selected

In the next three pages advanced analytic techniques such as regressions and factor analyses have been used to consider the impact of a range of variables based on participants' responses to the questions on their: attitudes and perceptions towards the environment (question E8 on page 67); current sustainable behaviours in relation to the environment and energy use (question E7a on page 68); and attitudes to and perceptions towards household electrical appliances (question E6 on page 70).

Question number	Variable label used
E8. We are now showing you a number of statements about the environment. Please indicate to what extent you agree or disagree with them. i. There is not much that I can do about the environment ii. In general I am concerned about environmental problems iii. The balance of nature is very delicate and easily upset iv. Humans are severely abusing the environment v. Humans have the right to modify the natural environment to suit their needs vi. Despite our special abilities humans are still subject to the laws of nature	Environmental concern
E6. The following statements are about household electric appliances. Please indicate to what extent you agree or disagree with them. i. It is generally a good idea to choose energy-efficient household electrical appliances ii. Energy-efficient household electrical appliances perform at least as well as other alternative appliances iii. Energy-efficient household electrical appliances pay-off financially within a reasonable period of time	Product specific beliefs
E6. The following statements are about household electric appliances. Please indicate to what extent you agree or disagree with them. iv. Nowadays it is just normal to take into account the energy-efficiency of household electrical appliances v. Most of my family and friends possess energy-efficient household electrical appliances vi. Most of my family and friends would expect me to purchase energy-efficient electrical appliances	Social norms

Question number	Variable label used
E6. The following statements are about household electric appliances. Please indicate to what extent you agree or disagree with them. vii. I cannot afford to choose energy-efficient electrical appliances viii. It is difficult to understand which household electrical appliances are the most energy-efficient	Perceived control
E6. The following statements are about household electric appliances. Please indicate to what extent you agree or disagree with them. ix. When buying a new household electrical appliance, I pay close attention to the energy-efficiency of the product x. When buying a new household electrical appliance, I intend to purchase an energy-efficient alternative	Behavioural intentions
E7a. Based on the following scale, how often do you do each of the following? Purchase organic or fair trade food items i. Re-use plastic bags ii. Turn off 'standby' modes on the TV and other appliances iii. Purchase products from materials that are or can be recycled iv. Use rechargeable batteries v. Turn lights off when leaving the room vi. Use the washing machine at low temperatures	Sustainable behaviour

Correlations between planned and sustainable behaviour and with

the energy rating of the fridges shortlisted and chosen in the experiment

instinct and reason

Behavioural intentions have a strong and positive relationship with product specific beliefs, social norms and sustainable behaviour. Product specific beliefs have a relationship with social norms. However, the analysis indicates that participants' environmental attitudes and sustainable behaviours did not have strong relationships to the star ratings of the fridges shortlisted and chosen in the experiment. There was only a relationship identified between the average star rating in the consideration stage and the average star rating in the choice stage.

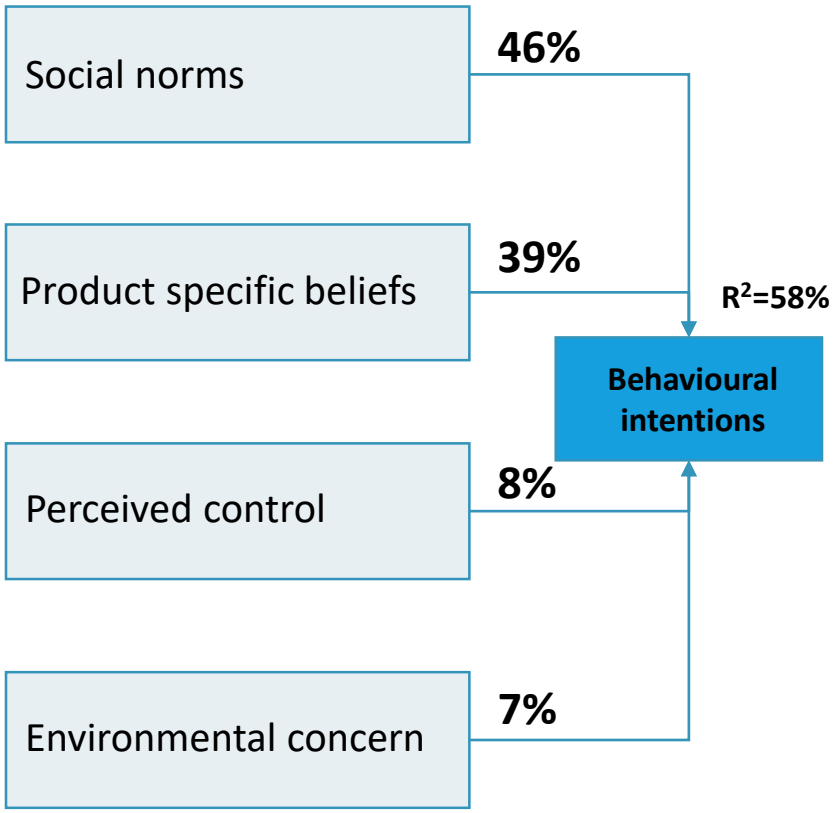
	Environmental concern	Product specific beliefs	Social norms	Perceived control	Behavioural intentions	Sustainable behaviour	Average number of fridges considered	Average star rating in consideration stage	Average star rating in choice stage
Environmental concern	1								
Product specific beliefs	.276	1							
Social norms	.237	**.609**	1						
Perceived control	.175	-.140	-.098	1					
Behavioural intentions	.260	**.668**	**.689**	-.157	1				
Sustainable behaviour	.276	.361	.393	-.009	**.417**	1			
Average number of Fridges considered	.026	.101	.047	-.093	.068	.036	1		
Average star rating in consideration stage	.013	.083	.086	-.060	.093	.063	-.006	1	
Average star rating in Choice stage	.022	.109	.104	-.079	.129	.089	.096	**.729**	1

Denotes significantly higher

Analysis of what drives behavioural intentions

and who is likely to have better behavioural intentions

Stepwise regression analysis indicated that social norms and product specific beliefs were key drivers for behavioural intentions with perceived control and environmental concerns only minor contributors.



People with a high education and those with 3 to 4 people living in the household were more likely to have better behavioural intentions.

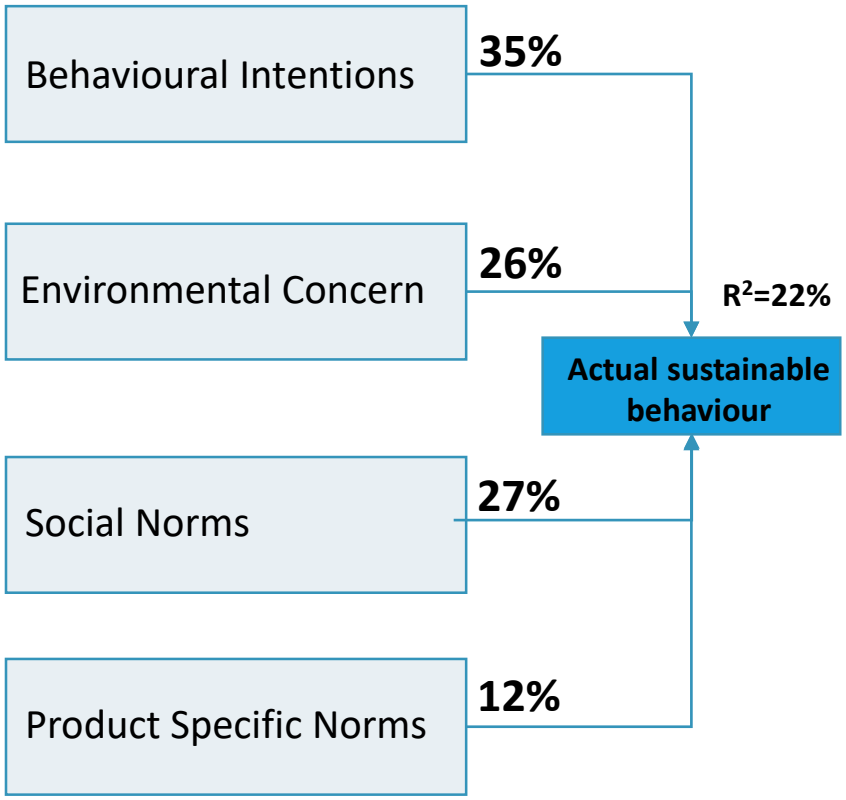
	Coefficient	Z-value	Relationship
High Education	0.258	0.000	Positive
Household Size 3-4 persons	0.123	0.042	Positive
Constant	0.273	0.000	

Stepwise Regression, R^2 = 58%
Only statements significant at the 95% confidence interval are shown

Analysis of what drives sustainable behaviour

and who is less or more likely to follow sustainable behaviours

The stepwise regression analysis has also indicated that behavioural intentions, social norms and environmental concern were the key drivers for actual sustainable behaviour. Perceived control did not have a significant impact on sustainable behaviour.



Males and those with a low education level are less likely to follow sustainable behaviours.

People who live in capital cities and have a middle-income level are more likely to follow sustainable behaviours.

	Coefficient	Z-value	Relationship
Male	-0.258	0.000	Negative
Low Education	-0.150	0.034	Negative
Middle Income	0.271	0.000	Positive
Capital City	0.168	0.033	Positive
Constant	-0.902	0.000	

Stepwise Regression, R2 = 22% *Caution: Result with low R2
Only statements significant at the 95% confidence interval are shown

8

Conclusions and possible future investigation

Conclusions

1. People who are exposed to energy rating information choose more energy efficient products.
2. The Energy Rating Icon is more effective than text only AND especially when shown at both stages.
3. The simplified version of the Energy Rating Label (the Energy Rating Icon) is generally understood.
4. There is consumer preference for kWh to be included in the Energy Rating Icon.
5. A minimum size for the icon of 100px (2.65 cm) would be preferable and particularly no smaller than 80px (2.21 cm) and it needs to be at the top of the page preferably close to the fridge, price and key details.
6. There is a positive relationship between higher education and income and the selection of fridges with higher energy ratings, but a negative relationship to males and younger consumers (21-34 years).
7. The icon did result on average in higher priced fridges being shortlisted and ultimately chosen.
8. Only 10% of research participants chose to filter by energy rating and only 1% by kWh.
9. With the energy rating of household electrical appliances cost savings appear to be a stronger driver than the environment, and the energy rating is one of but not the top consideration in the purchase decision.

Possible future investigation

Potential future research to build on the findings from this study include:

- Testing if the same effect occurs with other appliances (where there are different levels of engagement and key buying factors (e.g. washing machine or dryer or dishwasher or television).
- Exploring and testing whether a simple icon without the kWh could be more effective in the online environment despite the findings of this study (given some other research has indicated that the simpler and less cluttered the icon the better and with questions around consumer understanding and use of kWh); or if the added information of kWh or other features (e.g. in the more comprehensive bricks and mortar Energy Rating Label or online calculators and comparisons) would improve the Icon value and impact online.
- With the significant and continuing growth in households with their own energy generation, specifically investigating dynamics and if other drivers, attitudes and behaviours exist towards energy efficiency and household electrical appliances in these situations.
- Testing to confirm if there is a relationship between the presence of the icon and higher priced fridges on average being shortlisted and ultimately chosen—and exploring whether an online store that provides the Energy Rating Icon for the products displayed tends to have a consumer preference for use than one that does not.

9

Appendix I – Summary of the cognitive testing

Appendix I

Summary of cognitive testing results

Methodology

Ten 45–60 minute cognitive testing interviews were conducted with individuals in Canberra (ACT) and Sydney and Newcastle (NSW) aged 21-60 years who had used the internet to research, shortlist or purchase a refrigerator, freezer, washing machine, dryer, dishwasher or television within the last 3 months OR were thinking about purchasing one of these items within the next 3 months. The sample represented a mixture of life stages: singles, couples without kids, younger families (most children under 16 years), older families (most children over 16 years) and empty nesters. A range of income levels was also represented.

Objectives

The purpose of this stage of the research was to:

1. Understand the online decision-making process for the purchase of electrical appliances
2. Understand the degree to which energy ratings are considered at different stages of the online decision-making process
3. Understand the degree to which consumers understand energy rating information
4. Understand the impact of different versions of energy rating information—an icon with stars and kWh, an icon with stars only, information in words and no information
5. Understand the impact of the prominence of the icon at different stages of the decision-making process
6. Cognitively test the draft survey.

Appendix I

Summary of cognitive testing results (continued)

instinct and reason

1

The online decision-making and purchase process for household electrical appliances

Prior to hitting the keyboard, shoppers had a general idea of what they were looking for in a fridge-freezer. Lists tended to include:

- Size (with current fridge acting as a benchmark)
  - at this stage litres was the size guide
  - dimensions for fitting available space came later for some as a check, while **for many, fitting it in space available was number 1**
- Price
  - had a figure in mind BUT this might be revised during the search process depending on what was found (e.g. may increase upper limit if original budget didn't yield something that suited)
  - not the cheapest – felt to reflect poor quality, and potentially higher energy usage
  - not the most expensive (at least not in this sample)
- Brand – all had a preferred consideration set and were very unlikely to look outside this, especially if they didn't have interaction with a store/salesperson. For most, brand was an indicator of quality.
- Appearance (external)
- Other features such as inside layout
- Energy efficiency was in this initial consideration set for some; especially those who were more sensitive to the cost of power bills. It could be argued based on the interviews that while this was true, it was almost a subliminal consideration. Not many people started by thinking it didn't matter to them.

Appendix I

Summary of cognitive testing results (continued)

The online decision-making and purchase process for household electrical appliances

Step 1. Find a store

For purchasing or researching an electrical appliance online, all had an idea of where they were going to look and so they went first to a particular website (either via Google or typing into search bar) — i.e. very few just Googled 'fridge' or something else similarly generic to start the search.

Those who had purchased an electrical appliance online previously, and had had a positive experience (i.e. saw that it worked) were likely to return to the same site to look for their next appliance purchase.

Those who had not purchased an appliance online previously started with sites they were familiar with. This could be online stores they had visited previously, or the online store of a bricks and mortar retailer they were familiar with and was close by. Using the online store of a nearby bricks and mortar retailer had a sense of being safer; it also allowed shoppers to go to the store to 'touch and feel', and provided reassurance of delivery. The 'Good Guys' was a popular website for many (especially in Canberra and Newcastle). Harvey Norman and Appliances Online were also common for Canberra with one person noting that 'Winning Appliances' in Canberra was a bricks and mortar outlet of Appliances Online.

Appliances Online was a popular choice among those aware of it, because it was felt to have a good range of products and because the cost included delivery and removal of the old unit. This had been bookmarked by heavier users.

"I'd go to Appliances Online… I've used it before and it's worked, I've had a good experience, they've got a good range, free delivery, free takeaway, and they price match, which I have used before too."

"I'd start with Appliances Online… their price includes delivery and removal."

Appendix I

Summary of cognitive testing results (continued)

The online decision-making and purchase process for household electrical appliances (continued)

Step 2. Focus on the product in question – in this case, fridges

Once at an online store, the next step was to focus in on the product in question – shoppers were looking for 'fridge', and if they didn't see 'fridge' they clicked on a label that they think will lead them to this, e.g. 'Products'. They would then focus to the type of fridge they were interested in – i.e. bottom mount fridge.

Step 3. Narrow and shortlist – typically using size, brand, price

Order of size, brand, price could vary (but size often dominated as key), but all were key factors in the short-listing process. Some would simply enter a price range, or display by price, and look through the results to create their shortlist. Others applied filters and then looked through results to shortlist. Some would go to a bricks and mortar store to 'touch & feel' their preferred fridge(s), and some but not all would haggle on price with salesperson, ultimately purchasing where value for money was best.

"I like speaking to someone, asking questions, as many questions as I have, especially if I am handing over a lot of money…. I wouldn't even think to ask about the price, can you do that?"

Some used **chat boxes** to ask questions through an online store, saving the trip to a store or a phone call.

Choice of device

Most (but not all) preferred to use a desktop/laptop or tablet/iPad when looking for an appliance like a refrigerator online due to the larger screen size — *"The screen size, I have a mouse there, it's easier to navigate"*

Some would use their smartphone for quick initial or follow-up checks and searchers and some because they have no other alternative.

Appendix I

Summary of cognitive testing results (continued)

The online decision-making and purchase process for household electrical appliances (continued)

Why search online:

A primary reason given was that it was easier and more convenient than going to stores. It could be done from home or wherever; you can visit more stores; and do it whenever suits…

"It's better time management."

"Whenever I think I will have the chance to look… it could be at home, at work… I could be watching a TV show or doing something else at the same time too."

"It saves time, it's at least 15 minutes to get to any store, and they are not all together… and it is quicker to compare models."

"To find the best price and get local store to match."

Another reason given was to avoid salespeople - *"I don't want to be talked into buying something... I like the impersonality of online stores".*

Why make the purchase online?

The key reasons given included: (1) perceived better value (especially when factoring in delivery and removal); (2) not wanting to or can't get to a store (e.g. limited mobility, busy); and (3) seeing it as more convenient—don't have to leave home and can do at any time.

Why search online and purchase at a physical store?

The key reasons given included: (1) perceptions of a better price offered by a physical store (because they felt they could negotiate more and push more for price matching; (2) not being comfortable making a purchase of this size online; (3) preferring to ask questions in person; and (4) believing it was easier to talk to someone, get something fixed or return the product if there were post purchase issues.

Appendix I

Summary of cognitive testing results (continued)

instinct and reason

2

The degree energy ratings were considered at different stages of the online decision-making process

The earlier that energy ratings were featured in the information flow, the sooner they were considered in the decision-making process. It was interesting to observe that while energy efficiency may have been mentioned as a factor of consideration when purchasing an appliance like a fridge, when going through the online decision-making process via the survey it was often not raised until visually prompted.

Indeed, those who did not see the energy rating icon on the first screen (i.e. they saw no energy information or written text only) did not comment on the absence of this information, and it was only when the icon was seen that it was commented on and became part of the decision-making process. All were positive about the inclusion of this information when it was seen.

The implication of this was that when the energy rating icon was seen on the first screen, it influenced subsequent choices; where it appeared with the product details it became a consideration; and where it was not seen it ran the risk of not being factored into the decision.

It was not so much the different stages in the decision-making process that influenced the degree to which energy ratings were considered, but rather the attitude towards them. For example, some were prepared to pay a higher price for a product if it had a higher energy rating on the basis that the additional cost would be offset by money saved over the lifetime of the product. Others however were more concerned with the price tag than the longer term costs. In the case of the former, as soon as this information became available, it became part of the decision-making for this group. If available at the first level of the decision-making (i.e. Section B in the survey) it could be seen to influence the selections made, with products with low energy ratings, e.g. 2 stars or less, tending to be rejected. Where energy ratings were not such an important factor, they played more of a hygiene role with the participant simply checking the rating had not fallen below the desired, often lower, level. Also, there was evidence of an underlying assumption that expensive fridges would naturally be more energy efficient and vice-versa.

The degree energy ratings are considered at different stages of the online decision-making process (continued)

Regardless of the level of importance attached to energy ratings, most had a minimum number of stars they would accept and would not consider a product below this (unless all were below this minimum rating).

For one participant, this was 4 stars. At the lowest, 2 stars was deemed acceptable. Where energy rating was less of a consideration, the threshold of acceptability tended to be lower.

"I would want to know the energy rating before I bought it… if it wasn't on this site I would find it somewhere, somehow… Would want at least 2.5 stars unless desperate."

Observation

A number of respondents commented on seeing the energy rating icon that they hadn't seen this online before and liked having it here.

"You don't usually get the energy ratings… this is good!"

"I've seen that in shops but I don't recall seeing that online before."

In contrast, others were surprised that it wasn't mandatory online and adamant that it should be.

Appendix I

Summary of cognitive testing results (continued)

instinct and reason

3

The degree to which consumers understood energy rating information

All were familiar with the energy rating icon—notably the stars, the arch and the colours. They felt this was universally recognized today. In addition, the energy rating icon was understood as more stars = better, with better meaning more energy efficient. For the majority, energy efficiency translated into impact on energy bills, but for one the impact on environment was more significant.

"Higher [more stars] is better."

Quite how the energy rating was calculated wasn't known, but this did not seem to matter as the rating itself was more important to consumers than how this was arrived at.

However, many were surprised when it was pointed out the rating was out of six stars. They also couldn't explain what that particular star rating meant beyond comparing to others and thinking 1 is very poor, 3-3.5 is average (at a guess) and 6 would be very good.

Almost none could explain kWh. The exception was someone who had gone through the research for solar panels. Most guessed that this meant kilowatts per hour, with just a couple understanding it to be kilowatt hours. Almost none could explain what this meant to them, other than a bigger number meant more energy was used. One explained they would use the figure and their energy bill or an online calculator to work out what it meant in dollars each year to them.

"Relates to running costs."

"It's about the efficiency of the product… how much energy it would use… I don't understand the kWh but my husband probably would."

"Given the price of electricity these days… I would pay more for a higher rating… would not go below 3 and a half stars".

Appendix I

Summary of cognitive testing results (continued)

4

The impact of different versions of energy rating information

Four options were included in the concept testing: (1) no energy rating information; (2) in text; (3) as an icon (image) with stars; and an icon with stars and kWh.

The icon with stars, either with or without kWh, had a greater impact in the cognitive testing than information in text or no information at all, because…

- it was broadly understood as 'more stars = better'
- as a visual, it stood out more than if it were text only
- it was perceived to be universally recognised today and part of the language.

There were mixed views on whether the icon with stars was generally preferred to the icon with stars and kWh or vice versa. Some preferred without the kWh as the stars visually were believed to be easier to understand than kWh. Its impact wasn't necessarily greater than the icon with stars and kWh, but the inclusion of kWh did not increase the impact of the icon over stars alone. Whereas a few liked having the added information and a couple said they would use that information in their decision-making (by using it with their electricity bill information or in an online calculator).

"Stars make it easy to understand… the text makes it more complex than it needs to be… the stars are standard these days, it's how you look at things now."

"I have failing eyesight… the colours [in the icon] stand out quickly."

"I'm so used to looking at it."

"I like it with the kWh. I don't know why…I guess just the more information the better."

"I like it because I would use the kWh figure and calculate what it meant to me on dollars."

The impact of different versions of energy rating information (continued)
The inclusion of kWh had limited impact beyond the star rating for many with a number claiming they would not look at this and some using it at a subsequent level of decision-making.

"kWh, the higher the number, the more energy is used per hour… this wouldn't have an impact on my decision, I'd go by the stars."

Information in text only was very easy to miss and as such had low impact. Also, there was no clue as to out of how many stars the rating was.

Where no energy rating information was presented for all products, it was easily overlooked as a consideration as attention went to other factors for consideration in the decision-making process.

Where some products had energy ratings and others didn't, preference for consideration was given to those with an energy rating and it was easier to reject a product from the consideration set than to seek its energy rating elsewhere.

The exception was if there was a standout factor in those without the rating, e.g. a fantastic price for a great brand, but even then participants claimed they would try to find this missing information before finalising their decision to check that the product had at least the minimum number of stars they were happy with.

5

The impact of the prominence of the icon at different stages of the decision-making process

Participants were keen for the Energy Rating Icon to be displayed from the first level of the online search process (i.e. equivalent of Section B in the survey) because:

- they felt it provided easy checking/ comparing for the shortlisting process
- most participants had a minimum number of stars they were happy with and therefore seeing a product with a rating lower than this would remove it from the search at an earlier stage
- some would accept a higher price for a higher rating, within reason, thus affecting shortlisting
- it was a (welcome) reminder to consider the energy efficiency of the product.

They wanted the icon to be large enough for the number of stars to be easily seen, but not so large that it dominated all other information including the picture of the fridge.

Greatest prominence was achieved with a top or central positioning on a full screen. Positioning close to price was polarizing, with participants either loving or hating this. Placement on the left hand side and more so, any position down the bottom of the screen, was dismissed for being easy to miss.

Of the icon sizes explored for inclusion on the information screen, the larger of the options was generally felt to have greatest impact. It was felt that this was the upper limit of acceptable size, with the idea of an even larger icon rejected as being too dominant. While the middle size was acceptable, it was perceived to have less impact. In the context of encouraging shoppers to consider energy efficiency ratings in their online decision-making process when selecting/purchasing white goods, the larger of the icons explored was felt to be most effective as it was clear to see and not easily overlooked.

Appendix I

Summary of cognitive testing results (continued)

6

Cognitively test the draft survey

The draft survey tested well with just minor considerations to review. All ten participants were very positive about the survey, finding it to be: *straightforward, interesting and not too repetitive.*

"Easy, no problems, no alarms."

"As fun as surveys can be."

On learning that there was currently no legal requirement for energy ratings to be displayed in online stores, the concept of employing energy ratings online was welcomed.

Other

The Energy Rating Icon generally seemed more important to the older participants in the cognitive testing. They were also much more attuned to the fact that a higher rating would mean lower ongoing bills to the point that it even made sense to spend a bit more on a higher rating to achieve the savings over the 10 year life expectancy of the fridge.

In only a couple of the interviews, the main driver behind interest in energy rating was impact on environment.

"I don't think it will have that much impact on my energy bill but I am concerned about the impact on the environment. I'm of the 'think global, act local' mindset, we can all do our part... I come from a background of recyclers... it's important to me."

10

Appendix II – Section A of the survey

Appendix II
Section A of the survey

INTRODUCTION

Thank you for agreeing to participate in this online survey.

It should take approximately 20 minutes to complete, depending on the questions relevant to you. It is best to complete this survey using a device with a larger sized screen such as a PC or tablet/iPad.

All Instinct and Reason's research is conducted under the Market and Social Research Privacy Code which ensures your information remains confidential. The results will be aggregated and individual information will not be able to be identified.

When you are completing the survey, please read the instructions for each question carefully before selecting your answer.

At the end of the survey, please click 'Submit' so your responses are collected.

If you have any questions or technical difficulties regarding this survey, please feel free to contact Eric Wu by email at survey@instinctandreason.com or by phone on 02 9283 2233 or 0410 560 830.

Please click 'Next' to start the survey.

SECTION A

[ASK ALL]
A1. Are you …?
Please choose one only

[DO NOT ROTATE]	S/R	
An Australian citizen	O1	CONTINUE
Australian resident	O2	CONTINUE
Refugee	O3	CONTINUE
Temporary visitor	O4	THANK & CLOSE
Other	O5	THANK & CLOSE

[ASK ALL] [CONTINUE IF CODES 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9] [AIMING FOR A MIX]
A2. Which of the following age groups do you fall into?
Please choose one only

[DO NOT ROTATE]	S/R	
Under the age of 21	O1	THANK & CLOSE
21-24 years old	O2	CHECK SOFT QUOTAS
25-30 years old	O3	CHECK SOFT QUOTAS
31-34 years old	O4	CHECK SOFT QUOTAS
35-40 years old	O5	CHECK SOFT QUOTAS
41-44 years old	O6	CHECK SOFT QUOTAS
45-50 years old	O7	CHECK SOFT QUOTAS
51-54 years old	O8	CHECK SOFT QUOTAS
55-60 years old	O9	CHECK SOFT QUOTAS
61 years old or older	O10	THANK & CLOSE

[ASK ALL] [INCLUDED TO ALIGN WITH EU STUDY. ONLY CONTINUE IF USED INTERNET IN THE LAST 3 MONTHS]
A3. Before participating in this survey, have you used the internet at all within the last 3 months?
Please choose one only

[DO NOT ROTATE]	S/R	
Yes	O1	CONTINUE
No	O2	THANK AND CLOSE IN LINE WITH EU
Not sure	O98	THANK AND CLOSE IN LINE WITH EU

[ASK ALL] [AGREED FOR ALL TO CONTINUE LIKE EU]
A4. Please indicate for the following if you…
i. purchased any
ii. considering purchasing any
Please choose one on each row. If you have not purchased or not considering purchasing the item within the timeframes provided just indicate 'not applicable'.

ATE A-M] [S/R ON EACH]	i. Purchased within the last…		ii. Consider purchasing within the next…		Not applicable
	3 months	4-12 months	3 months	4-12 months	
Television	O1	O2	O3	O4	O98
DVD/Blu-ray player	O1	O2	O3	O4	O98
Sound system	O1	O2	O3	O4	O98
Freezer	O1	O2	O3	O4	O98
Fridge (including combined fridge-freezer)	O1	O2	O3	O4	O98
Washing machine	O1	O2	O3	O4	O98
Dryer	O1	O2	O3	O4	O98
Dishwasher	O1	O2	O3	O4	O98
Microwave	O1	O2	O3	O4	O98
Kettle	O1	O2	O3	O4	O98
Laptop	O1	O2	O3	O4	O98

[ASK ALL] [CONTINUE ALL OR ONLY IF CODES 1 FOR AT LEAST 1 ITEM AT A5?]
A5. When it comes to purchasing an appliance like a TV, freezer, fridge, washing machine, dryer or dishwasher, would you ever use the internet to…?
Please choose one on each row

[DO NOT ROTATE]	S/R ON EACH ROW		
	Yes	No	Not sure
a. Research what is available and what is on offer	O1	O2	O98
b. Short list and compare the products you are interested in	O1	O2	O98
c. Order and purchase the product online	O1	O2	O98

[ASK ALL] [CONTINUE ONLY IF CODES 1 OR 2 OR 3 AT A6 – I.E. EXCLUDE THOSE WHO ARE NOT INVOLVED IN DECISION MAKING FOR APPLIANCES]
A6. When it comes to purchasing an appliance like a TV, freezer, fridge, washing machine, dryer or dishwasher for your household, would you say you would be…?
Please choose one only

[DO NOT ROTATE]	S/R	
The main person involved in the decision making	O1	CONTINUE
An equal member in the decision making	O2	CONTINUE
Involved in the decision making but not the main decision maker	O3	CONTINUE
Not involved in the decision making at all	O4	THANK & CLOSE

[ASK ALL] [AIMING FOR A MIX]
A7. Which **best** describes the **highest** level of education you have completed?
Please choose one only

[DO NOT ROTATE]	S/R	
No formal schooling	O1	CHECK SOFT QUOTA
Primary school	O2	CHECK SOFT QUOTA
Some secondary school	O3	CHECK SOFT QUOTA
Completed secondary school	O4	CHECK SOFT QUOTA
Trade or technical qualification (e.g. TAFE or CIT)	O5	CHECK SOFT QUOTA
University or tertiary diploma or undergraduate degree	O6	CHECK SOFT QUOTA
Post-graduate or higher qualification (e.g. masters or doctorate)	O7	CHECK SOFT QUOTA

Appendix II

Section A of the survey (continued)

[ASK ALL] [AIMING FOR A MIX]

A8. What is your household income before tax (approximately)? (If it is a share house just indicate your own income. If retired please indicate your income from your different sources whether superannuation, pension or investments.)

Please choose one only

[DO NOT ROTATE]	S/R	
$0 - $38,600 per year (up to $742 a week)	O1	CHECK SOFT QUOTA
$38,601 - $74,400 per year ($743 to $1,431 a week)	O2	CHECK SOFT QUOTA
$74,401 – $126,500 per year ($1,432 to $2,433 a week)	O3	CHECK SOFT QUOTA
$126,501 or more per year ($2,434 or more a week)	O4	CHECK SOFT QUOTA

[ASK ALL WHO CONTINUE] [FOR ANALYSIS]

A9. Which **best** describes your main source of income?

Please choose one only

[DO NOT ROTATE]	S/R	
Mostly wages or income from your job, private super or investments	O1	CONTINUE
Equal mix of wages or income from your job, private super or investments and government support	O2	CONTINUE
Mainly government support	O3	CONTINUE

[ASK ALL] [AIM FOR A MIX]

A10. Which gender do you most closely identify as?

Please choose only one

[ROTATE CODES 1 AND 2]	S/R	
Male	O1	CONTINUE
Female	O2	CONTINUE
Other	O3	CONTINUE

[ASK ALL]

A11. Which city or area do you live in?

Please choose one only

[DO NOT ROTATE]	S/R		[DO NOT ROTATE]	S/R	
Sydney	O1	CHECK SOFT QUOTA	Elsewhere in NSW	O2	CHECK SOFT QUOTA
Melbourne	O3	CHECK SOFT QUOTA	Elsewhere in VIC	O4	CHECK SOFT QUOTA
Brisbane	O5	CHECK SOFT QUOTA	Elsewhere in QLD	O6	CHECK SOFT QUOTA
Adelaide	O7	CHECK SOFT QUOTA	Elsewhere in SA	O8	CHECK SOFT QUOTA
Perth	O9	CHECK SOFT QUOTA	Elsewhere in WA	O10	CHECK SOFT QUOTA
Darwin	O11	CHECK SOFT QUOTA	Elsewhere in NT	O12	CHECK SOFT QUOTA
Hobart	O13	CHECK SOFT QUOTA	Elsewhere in TAS	O14	CHECK SOFT QUOTA
Canberra (ACT)	O15	CHECK SOFT QUOTA	Elsewhere in Australia	O16	CHECK SOFT QUOTA
Overseas	O17	THANK & CLOSE			

[ASK ALL] [FOR ANALYSIS]

A12. Which of the following **best** describes where you live?

Please choose one only

[DO NOT ROTATE]	S/R	
I own the place I live in and have no mortgage	O1	CONTINUE
I am paying off a mortgage on the place where I live	O2	CONTINUE
I am paying rent or board for the place where I live	O3	CONTINUE
I am not paying anything for the place where I live	O4	CONTINUE
Other [please specify…]	O5	CONTINUE

[ASK ALL] [AIMING FOR A MIX. FOR ANALYSIS]

A13. Which of these **best** describes your household?

Please choose only one

[DO NOT ROTATE]	S/R	
Single with no school age children living with me	O1	CONTINUE
Single with one or more school age children living with me	O2	CONTINUE
Couple with no school age children living with us	O3	CONTINUE
Couple with one or more school age children living with us	O4	CONTINUE
Live with my parents/siblings/relatives	O5	CONTINUE
Boarder	O6	CONTINUE
Shared household or group house	O7	CONTINUE
Other [Please specify…]	O8	CONTINUE

[ASK ALL] [TO MATCH QUESTION ASKED IN EU STUDY]

A14. Including yourself, how many people live in this household?

Please choose only one

[DO NOT ROTATE]	S/R	
1 person	O1	CONTINUE
2 persons	O2	CONTINUE
3 persons	O3	CONTINUE
4 persons	O4	CONTINUE
5 or more persons	O5	CONTINUE

[ASK ALL]

A15. Were you born…?

Please choose one only

[DO NOT ROTATE]	S/R	
In Australia	O1	CONTINUE
In another country	O2	CONTINUE

[ASK ALL] [TO DELETE IF ONLINE TESTING FINDS SURVEY LENGTH IS TOO LONG]

A16. Is another language spoken by anyone at home in addition to or instead of English?

Please choose one only

	S/R	
Yes	O1	CONTINUE
No	O2	CONTINUE

[ASK ALL] [TO DELETE IF ONLINE TESTING FINDS SURVEY LENGTH IS TOO LONG]

A17. Are you of Aboriginal or Torres Strait Islander origin or both?

Please choose one only

[DO NOT ROTATE]	S/R	
Yes – Aboriginal origin	01	[CONTINUE]
Yes – Torres Strait Islander origin	02	[CONTINUE]
Yes – both Aboriginal and Torres Strait Islander origin	03	[CONTINUE]
No – neither	04	[CONTINUE]
Don't know / unsure	98	[CONTINUE]

instinct and reason

11

Appendix III – Sample profiles of the fridges found and used

Appendix III

Sample profile of bottom mount fridges found and used

instinct and reason

This is a profile of the fridges found in the Australian online market and the fridges used in the experiment.

Price range	Star category												TOTAL (by price)	TOTAL in Appstore (by price)	No. listed as a top seller (by price)	No. of top sellers in Appstore (by price)
	1.5 star		2.5 star		3.0 star		3.5 star		4.0 star		4.5 star					
	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore				
<$825	0	0	3	1	1	1	8	3	1	0	0	0	13	5	3	3
$825-$999	0	0	2	1	2	1	5	2	4	2	1	1	14	7	7	5
$1,000-$1,449	0	0	6	3	15	5	15	6	5	4	3	2	44	20	20	10
$1,450-$1,999	1	0	1	1	16	5	7	3	1	0	6	4	32	13	15	9
>$2,000	0	0	6	3	4	2	32	6		0		0	42	11	1	1
TOTAL (by star)	**1**	**0**	**18**	**9**	**38**	**14**	**67**	**20**	**11**	**6**	**10**	**7**	**145**	**56**	**46**	**28**
% of overall total	**1%**	**0%**	**12%**	**16%**	**26%**	**25%**	**46%**	**36%**	**8%**	**11%**	**7%**	**13%**				
No. listed as a top seller (by star)	**0**	**0**	**1**	**1**	**12**	**6**	**22**	**11**	**4**	**4**	**7**	**6**				

Brand	Star category												TOTAL (by brand)	TOTAL in Appstore (by brand)	No. listed as a top seller (by brand)	No. of top sellers in Appstore (by brand)
	1.5 star		2.5 star		3.0 star		3.5 star		4.0 star		4.5 star					
	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore	No. in this category	No. in Appstore				
AEG	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0
Beko	0	0	0	0	0	0	5	1	7	2	0	0	12	3	0	0
Bosch	0	0	1	1	1	1	0	0	0	0	0	0	2	2	0	0
Electrolux	0	0	0	0	0	0	1	1	0	0	5	3	6	4	3	3
Fisher & Paykel	0	0	4	2	23	7	5	3	0	0	0	0	32	12	15	8
Gorenje	1	0	1	1	8	2	0	0	0	0	1	1	11	4	0	0
Haier	0	0	2	1	0	0	0	0	2	2	0	0	4	3	3	3
Hisense	0	0	3	1	0	0	0	0	0	0	0	0	3	1	0	0
Kelvinator	0	0	0	0	0	0	4	1	0	0	0	0	4	1	2	1
LG	0	0	0	0	0	0	1	1	0	0	4	3	5	4	4	3
Liebherr	0	0	1	1	1	1	6	2	0	0	0	0	8	4	0	0
Miele	0	0	2	1	1	0	1	0	0	0	0	0	4	1	0	0
Panasonic	0	0	0	0	0	0	3	1	0	0	0	0	3	1	0	0
Samsung	0	0	0	0	3	2	0	0	2	2	0	0	5	4	4	3
Smeg	0	0	2	0	0	0	24	3	0	0	0	0	26	3	0	0
Westinghouse	0	0	0	0	0	0	17	7	0	0	0	0	17	7	15	7
Whirlpool	0	0	2	1	0	0	0	0	0	0	0	0	2	1	0	0
TOTAL (by star)	**1**	**0**	**18**	**9**	**38**	**14**	**67**	**20**	**11**	**6**	**10**	**7**	**145**	**56**	**46**	**28**
% of overall total	**1%**	**0%**	**12%**	**16%**	**26%**	**25%**	**46%**	**36%**	**8%**	**11%**	**7%**	**13%**				
No. listed as popular (by star)	**0**	**0**	**1**	**1**	**12**	**6**	**22**	**11**	**4**	**4**	**7**	**6**				

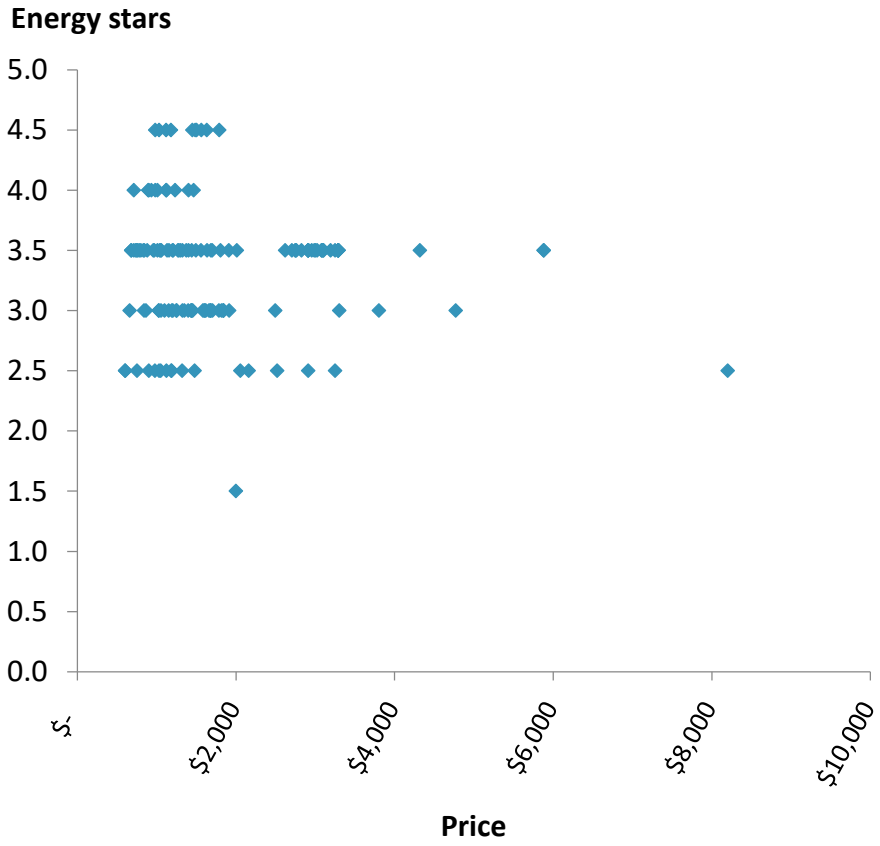
72% of fridges found in the Australian online market had an energy rating of 3.0 or 3.5 (with overall average rating of 3.34 and price of $1836.97). Fridges selected for the experiment had a similar profile of 61% being 3.0 or 3.5 stars (with an overall average rating of 3.39 and price of $1620.09).

Appendix III

Testing for any relationship between price and energy rating

For the 145 fridges found in Australian online market

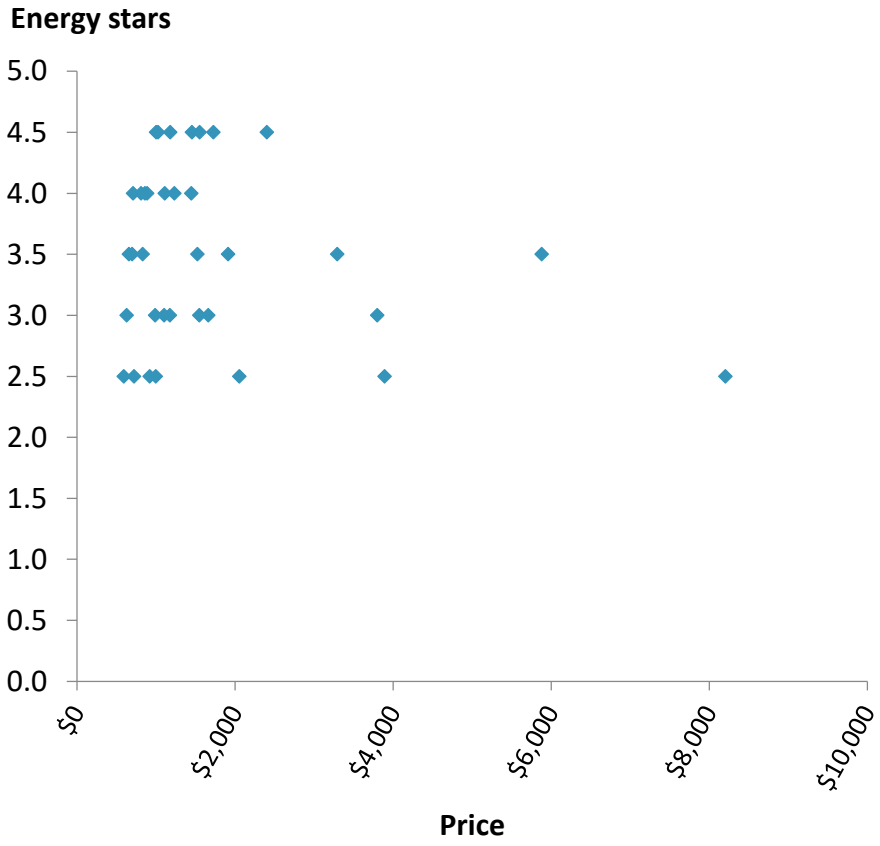
There was no significant relationship between energy rating and price of the fridges that were available in the online market. The correlation was -0.067.



Base: *145 fridges available in online market*

For the 56 fridges used in the experiment

There was a weak negative relationship between energy rating and price of the fridges included in the experiment. The correlation was -0.200.



Base: *56 fridges used in the experiment*

12

Appendix IV – Section B of the survey – consideration stage

Appendix IV

Section B of the survey – consideration stage

[SHOW ALL – INTRODUCTION SCREEN]
Imagine that you are looking to buy a bottom mount refrigerator for your home (i.e. with a freezer compartment at the bottom) and are visiting an online store. Online stores often have so many products on offer that not all product information can be shown at once. Instead, they allow you to choose which products you'd like to read more information about.

On the next screen you will see an online store we have created. You will be asked to indicate which refrigerators you would seriously consider.

[ASK ALL – ADDED TO CHECK IF CHOICES ARE IMPACTED BY ANY LACK OF ANY PREFERRED BRAND IN THE CONSIDERATION SET MADE AVAILABLE IN THIS STUDY]
B0. But before you proceed to the next screen, if you were looking to buy a bottom mount refrigerator for your household, which of the brands you would:

i. Consider…?
ii. Prefer…?

Please choose all that apply in each column. If you would not consider or prefer a brand, please leave it blank.

[ROTATE]	Consider M/R	Prefer M/R
AEG	O1	O1
Beko	O2	O2
Bosch	O3	O3
Electrolux	O4	O4
Fisher & Paykel	O5	O5
Gorenje	O6	O6
Haier	O7	O7
Hisense	O8	O8
Kelvinator	O9	O9
LG	O10	O10
Liebherr	O11	O11
Miele	O12	O12
Panasonic	O13	O13
Samsung	O14	O14
Sharp	O15	O15
Smeg	O16	O16
Westinghouse	O17	O17
Whirlpool	O18	O18
Other [please specify…]	O19	O19
I have no particular preferences	O20	O20

[SHOW ALL THE CONSIDERATION STAGE WEBSITE APP BASED ON THE SIX MATCHING SAMPLE GROUPS]
B1. Our online store shows a range of bottom mount refrigerators that are available in the market. To simplify your task imagine that these are the only products available. Select the refrigerators that you would seriously consider and you would like to read more about. Make your selection by clicking on each refrigerator you are interested in.

You need to select at least 2 and no more than 5.

Our online store shows the products and information in the same way as other online stores. You can filter by brand, size, price range and finish colour. Just click on 'Filter products' after you make and filter choices.

[RELEVANT WEBSITE APPSTORE SCREEN FOR THE SAMPLE GROUP FOR CONSIDERATION STAGE]

No energy rating info

As text

As an icon

13

Appendix V – Section C of the survey – choice stage

Appendix V

Section C of the survey – choice stage

SECTION C

[SHOW ALL]
Let's go back to the online store we have created and the refrigerators you selected to see more information. On the next screen you will see the individual product pages for the products you short-listed (with information like you would see on other online stores). Please indicate which one of the four products you would choose if you had to select one for your household today.

[SHOW ALL THE CHOICE STAGE WEBSITE APP BASED ON SAMPLE GROUP AND RESPONDENT SHORT LISTING SELECTIONS FROM SECTION B]
C1. Which refrigerator would you choose if you were looking today for a refrigerator like these? Please select the refrigerator that you would prefer by clicking on the shopping cart and the clicking on 'Select product'.

[RELEVANT CHOICE STAGE WEBSITE APPSTORE SCREEN FOR THE SAMPLE GROUP AND SHORTLISTED FRIDGES]

[ASK ALL]
C2a. I found initially choosing fridges I would seriously consider and would like to read more about to be...
Please choose only one

Very difficult						Very easy
O1	O2	O3	O4	O5	O6	O7

[ASK ALL]
C2b. I found making the final choice of the fridge I prefer to be...
Please choose only one

Very difficult						Very easy
O1	O2	O3	O4	O5	O6	O7

[ASK ALL]
C3. I found the information on this website to be...
Please choose only one
[DO NOT ROTATE]

Very difficult to understand						Very easy to understand
O1	O2	O3	O4	O5	O6	O7

[ASK ALL]
C4a. If you were to actually buy one of the refrigerators, where would you be **most likely** to do this?
Please choose only one

[DO NOT ROTATE]	S/R	
In an online store	O1	
In a physical 'bricks and mortar' store	O2	
It depends [Please specify why and in what way it depends…]	O3	

[ASK IF CODE 1 AT C4a] [SHOW ON SCREEN WITH C4a]
C4b. Why would you be more likely to do this in an online store?
Please type your response in the box below

[ASK IF CODE 2 AT C4a] [SHOW ON SCREEN WITH C4a]
C4c. Why would you be more likely to do this in a physical 'bricks and mortar' store?
Please type your response in the box below

[ASK ALL]
C5. If you were to actually research or buy one of the refrigerators in an online store, which device would you be **most likely** to use?
Please choose only one

[DO NOT ROTATE]	S/R	
PC or laptop	O1	
Tablet	O2	
Smartphone	O3	
Other [please specify…]	O4	

Example with no energy rating information

Example with energy rating in text

Example with energy rating in text

14

Appendix VI – Section D and E of the survey

Appendix VI
Section D of the survey

SECTION D

[SHOW ALL – THIS IS JUST TO INTRODUCE THE OVERALL LABEL TO RESPONDENTS]
We would now like to ask you some questions on energy efficiency information.

Imagine that you are looking for and needing to buy a bottom mount refrigerator for your home (i.e. with a freezer compartment at the bottom) and are visiting an online store.

Now imagine you saw the image below on the webpage for the refrigerator you were looking at possibly buying.

[ASK ALL, SHOW ON SAME SCREEN AS IMAGE]
D1. In as much detail as possible please indicate what you understand the image is telling you about the refrigerator?

[Free text]

[ASK ALL, SHOW IMAGE ON SCREEN]
D2. How strongly do you agree or disagree with the following statements?
Please choose one on each row

[ROTATE CODES I-IV]	S/R ON EACH ROW					
	Strongly disagree	Disagree	Neither	Agree	Strongly Agree	Not sure/NA
i. I clearly and easily understand what the image is telling me about the refrigerator	O1	O2	O3	O4	O5	O98
ii. This image would help me pick an energy efficient refrigerator for my home	O1	O2	O3	O4	O5	O98
iii. I would use this image to compare between refrigerators I was considering	O1	O2	O3	O4	O5	O98
iv. This image reminds me to consider the energy efficiency when deciding what to buy	O1	O2	O3	O4	O5	O98

[ASK ALL]

Now imagine on the webpage for the refrigerator you are looking at possibly buying, there is the above image with '246 kWh' added.

D3. In as much detail as possible please indicate what you understand **the addition of 246 kWh** is telling you about the refrigerator.
Please type your response in the box below

[Free text]

[ASK ALL]
D4. Which image would you find most helpful and effective when looking online to choose a refrigrator to buy for your home?
Please choose only one

[ROTATE 1 AND 2]	S/R	
	O1	
	O2	
Neither of them	O3	
Don't know/not sure	O98	

[ASK IF CODE 1 OR 2 OR 3 AT D4]
D4b. Please tell us why you made the selection you did.
Please type your response in the box below

[Free text]

[ASK ALL]
D5. At which size does the image **become too small** on the screen for you to effectively see what it is indicating?
Please choose only one

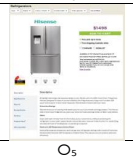
[DO NOT ROTATE]	S/R	
	O1	
	O2	
	O3	
	O4	
	O5	
	O6	
Don't know/not sure	O98	

Appendix VI
Section D of the survey (continued)

[ASK ALL] [IMAGES ARE GRAPHICALLY DESIGNED AND SET OUT]
D6. Imagine you are visiting the webpage for a particular refrigerator. Which of the following positions on the webpage will most likely result in you noticing the energy efficiency rating when considering whether to buy a refrigerator?

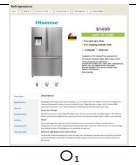
You can indicate if one will have most impact or if two or more will have equal impact or if none will have impact.

Please choose all that apply

[ROTATE 1-6] [M/R EXCEPT IF CHOOSE DON'T]	
	
O1	O2
	
O3	O4
	
O5	O6
None of the above O7	Don't know/not sure O98

[ASK IF CODE 1 OR 2 OR 3 OR 4 OR 5 Or 6 OR 7 AT D6]
D7. Please tell us why you made the selection/s you did.
Please type your response in the box below
[Free text]

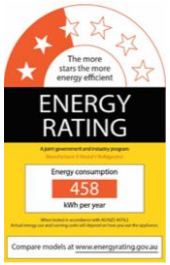
[ASK ALL] [IMAGES ARE GRAPHICALLY DESIGNED AND SET OUT]
D8. Which of the following image sizes used on the webpage will **most likely result in you noticing** the energy efficiency rating?
You can indicate if one will have most impact or if two or all three would have equal impact or that none of them would.
Please choose all that apply

[DO NOT ROTATE] [M/R]		
		
O1	O2	O2
None of the above O4	Don't know/not sure O98	

[ASK IF CODE 1 OR 2 OR 3 OR 4 AT D8]
D9. Please tell us why you made the selection/s you did.
Please type your response in the box below
[Free text]

[ASK ALL] [SHOW IMAGE ON SAME SCREEN]
D10. Before participating in this study, have you ever seen this energy efficiency label on appliances in a store?
Please choose only one

[DO NOT ROTATE]	S/R	
Yes	O1	
No	O2	
Not sure	O98	



[ASK ALL] [SHOW IMAGE ON SAME SCREEN]
D11. The energy rating label on appliances in stores includes the message 'Compare models at www.energyrating.gov.au'.
Please choose one on each row

[DO NOT ROTATE]	S/R ON EACH ROW		
	Yes	No	Not sure
a. Have you ever visited the www.energyrating.gov.au after seeing it on a label?	O1	O2	O98
b. Would you visit www.energyrating.gov.au if you notice it in the future?	O1	O2	O98

Appendix VI
Section E of the survey

SECTION E

Lastly we have some questions about purchasing products online and offline, and about the environment.

[ASK ALL]
E1. Over the last 12 months, how often on average have you…?
i. bought any products online
ii. searched for information about any product online and then bought it in a physical 'brick and mortar' store
iii. searched for information in a physical 'brick and mortar' store and then bought the product online
iv. visited a price comparison website (*a price comparison website is a website that compares prices of specific products across various web stores/sites*)

Please choose only one in each column

[DO NOT ROTATE]	E1i S/R	E1ii S/R	E1iii S/R	E1iv S/R
Once every week or more often	O1	O1	O1	O1
Once every two weeks	O2	O2	O2	O2
Once a month	O3	O3	O3	O3
Once every two months	O4	O4	O4	O4
Once every three months	O5	O5	O5	O5
Two times	O6	O6	O6	O6
Once	O7	O7	O7	O7
Never	O8	O8	O8	O8

[ASK ALL]
E2. Over the last 12 months, which devices have you used to make online purchases?

Please choose all that apply

[DO NOT ROTATE]	M/R	
Computer/laptop	O1	
Tablet	O2	
Smartphone	O3	
Other [please specify…]	O4	

[ASK ALL] [EU STUDY HAD IT AT 30 EURO – WHICH IS EQUIVALENT OF $AUS50]
E3. Thinking only about occasions **in the last 12 months** when you **spent $50 or more**, which of the following type of products did you purchase…?
i. online
ii. purchase in a physical 'brick-and-mortar' store

Please choose all that apply on each row

[DO NOT ROTATE]	Online	Bricks and mortar store	Not applicable (S/R)
Electric equipment (incl. computer, phone, camera)	O1	O2	O98
Clothes, shoes, and jewellery	O1	O2	O98
Books	O1	O2	O98
CDs/DVDs/computer games	O1	O2	O98
Electrical household appliance	O1	O2	O98
Furniture	O1	O2	O98
Sports and outdoor equipment	O1	O2	O98
Food	O1	O2	O98

[ASK ALL]
E4. How important would the following factors be to you when making your choice of…?
i. A refrigerator
ii. A washing machine
iii. A television

Please distribute 100 points in each column among the factors listed below

gerator [ROTATE I-V]		ii. Washing machine [ROTATE I-V]		Television [ROTATE I-V]
d		a. Brand		a. Brand
gy efficiency		b. Energy efficiency		b. Energy efficiency
		c. Loading and spinning capacity		c. Size
n		d. Number of different programs		d. Function possibilities
		e. Price		e. Price
t add up to	**100%**	**Total must add up to**	**100%**	**Total must add up to**

[ASK ALL]
E5. In general how important is energy efficiency to you when you buy household electric appliances (like refrigerators, freezers, washing machines, dryers and dish washing machines)?

Please choose only one

[DO NOT ROTATE]	S/R	
Not at all important	O1	
Somewhat important	O2	
Important	O3	
Very important	O4	

[ASK ALL]
E6. The following statements are about household electric appliances. Please indicate to what extent you agree or disagree with them.

With the term 'household electric appliances' we mean energy-using devices such as washing machines, refrigerators, air conditioners, vacuum cleaners, light bulbs, televisions, etc.

Please choose one on each row

[ROTATE CODES I-X]	S/R ON EACH ROW					
	Strongly disagree	Disagree	Neither	Agree	Strongly Agree	Not sure/NA
i. It is generally a good idea to choose energy-efficient household electrical appliances	O1	O2	O3	O4	O5	O98
ii. Energy-efficient household electrical appliances perform at least as well as other alternative appliances	O1	O2	O3	O4	O5	O98
iii. Energy-efficient household electrical appliances pay-off financially within a reasonable period of time	O1	O2	O3	O4	O5	O98
iv. Nowadays it is just normal to take into account the energy-efficiency of household electrical appliances	O1	O2	O3	O4	O5	O98
v. Most of my family and friends possess energy-efficient household electrical appliances	O1	O2	O3	O4	O5	O98
vi. Most of my family and friends would expect me to purchase energy-efficient electrical appliances	O1	O2	O3	O4	O5	O98
vii. I cannot afford to choose energy-efficient electrical appliances	O1	O2	O3	O4	O5	O98
viii. It is difficult to understand which household electrical appliances are the most energy-efficient	O1	O2	O3	O4	O5	O98
ix. When buying a new household electrical appliance, I pay close attention to the energy-efficiency of the product	O1	O2	O3	O4	O5	O98
x. When buying a new household electrical appliance, I intend to purchase an energy-efficient alternative	O1	O2	O3	O4	O5	O98

[ASK ALL]
E7a. Based on the following scale, how often do you do each of the following?

Please choose one on each row

[ROTATE CODES I-VII]	S/R ON EACH ROW					
	Never 1	Very rarely 2	Sometimes 3	Mostly 4	Always 5	Not sure/NA
i. Purchase organic or fair trade food items	O1	O2	O3	O4	O5	O98
ii. Re-use plastic bags	O1	O2	O3	O4	O5	O98
iii. Turn off 'standby' modes on the TV and other appliances	O1	O2	O3	O4	O5	O98
iv. Purchase products from materials that are or can be recycled	O1	O2	O3	O4	O5	O98
v. Use rechargeable batteries	O1	O2	O3	O4	O5	O98
vi. Turn lights off when leaving the room	O1	O2	O3	O4	O5	O98
vii. Use the washing machine at low temperatures	O1	O2	O3	O4	O5	O98

Appendix VI
Section E of the survey (continued)

[ASK ALL]
E7b. Do you have solar energy system installed in your home for electricity?
Please choose only one

[DO NOT ROTATE]	S/R	
Yes	O1	
No	O2	
Not sure	O98	

[ASK ALL]
Nearly finished. Just two more questions to go.
E8. We are now showing you a number of statements about the environment. Please indicate to what extent you agree or disagree with them.
Please choose one on each row

[ROTATE CODES I-VI]	S/R ON EACH ROW					
	Strongly disagree	Disagree	Neither	Agree	Strongly Agree	Not sure/NA
i. There is not much that I can do about the environment	O1	O2	O3	O4	O5	O98
ii. In general I am concerned about environmental problems	O1	O2	O3	O4	O5	O98
iii. The balance of nature is very delicate and easily upset	O1	O2	O3	O4	O5	O98
iv. Humans are severely abusing the environment	O1	O2	O3	O4	O5	O98
v. Humans have the right to modify the natural environment to suit their needs	O1	O2	O3	O4	O5	O98
vi. Despite our special abilities humans are still subject to the laws of nature	O1	O2	O3	O4	O5	O98

[ASK ALL]
E9. What type of device was used to complete the survey?
Please choose only one

[DO NOT ROTATE]	S/R	
PC or laptop	O1	
Tablet	O2	
Smartphone	O3	
Other [please specify…]	O4	

THANK AND CLOSE

Thank you for your participation in this survey.

Please click 'Submit' to send your responses to us.

15

Appendix VII – Sample profile of survey participants

Sample structure

Age	n=	%
Total Sample	**4818**	**100**
21-24 years old	275	6
25-30 years old	677	14
31-34 years old	590	12
35-40 years old	979	20
41-44 years old	614	13
45-50 years old	596	12
51-54 years old	445	9
55-60 years old	642	13

Gender	n=	%
Total Sample	**4818**	**100**
Male	2250	47
Female	2561	53
Other	7	0

Citizen status	n=	%
Total Sample	**4818**	**100**
An Australian citizen	4343	90
Australian resident	474	10
Refugee	1	0
Temporary visitor	0	0
Other	0	0

Location	n=	%
Total Sample	**4818**	**100**
Sydney	910	19
Elsewhere in NSW	554	11
Melbourne	903	19
Elsewhere in VIC	303	6
Brisbane	556	12
Elsewhere in QLD	350	7
Adelaide	344	7
Elsewhere in SA	72	1
Perth	471	10
Elsewhere in WA	103	2
Darwin	22	0
Elsewhere in NT	8	0
Hobart	67	1
Elsewhere in TAS	32	1
Canberra (ACT)	123	3
Elsewhere in Australia	0	0
Overseas	0	0

Sample structure

decision-making	n=	%
Total Sample	**4818**	**100**
The main person involved in the decision-making	2395	50
An equal member in the decision-making	2270	47
Involved in the decision-making but not the main decision maker	153	3
Not involved in the decision-making at all	0	0

Main source of income	n=	%
Total Sample	**4818**	**100**
Mostly wages or income from your job, private super or investments	4095	85
Equal mix of wages or income from your job, private super or investments and government support	367	8
Mainly government support	356	7

Income	n=	%
Total Sample	**4818**	**100**
$0 - $38,600 per year (up to $742 a week)	633	13
$38,601 - $74,400 per year ($743 to $1,431 a week)	1267	26
$74,401 – $126,500 per year ($1,432 to $2,433 a week)	1705	35
$126,501 or more per year ($2,434 or more a week)	1213	25

Highest level of education	n=	%
Total Sample	**4818**	**100**
No formal schooling	9	0
Primary school	15	0
Some secondary school	434	9
Completed secondary school	948	20
Trade or technical qualification (e.g. TAFE or CIT)	1599	33
University or tertiary diploma or undergraduate degree	1339	28
Post-graduate or higher qualification (e.g. masters or doctorate)	474	10

Other language spoken at home	n=	%
Total Sample	**4818**	**100**
Yes	811	17
No	4007	83

Aboriginal or TSI origin	n=	%
Total Sample	**4818**	**100**
Yes – Aboriginal origin	66	1
Yes – Torres Strait Islander origin	13	0
Yes – both Aboriginal and Torres Strait Islander origin	7	0
No – neither	4684	97
Don’t know / unsure	48	1

Sample structure

Ownership of house	n=	%
Total Sample	**4818**	**100**
I own the place I live in and have no mortgage	768	16
I am paying off a mortgage on the place where I live	2375	49
I am paying rent or board for the place where I live	1469	30
I am not paying anything for the place where I live	194	4
Other/Refused	20	1

Household	n=	%
Total Sample	**4818**	**100**
Single with no school age children living with me	661	14
Single with one or more school age children living with me	254	5
Couple with no school age children living with us	1621	34
Couple with one or more school age children living with us	1632	34
Live with my parents/siblings/relatives	353	7
Boarder	12	0
Shared household or group house	203	4
Single with child/ren younger than school age living with me	3	0
Single with adult/s living with me	16	0
Couple with child/ren younger than school age living with us	22	0
Couple with other adult/s living with us	38	1
Other	3	0

No. of people living in household	n=	%
Total Sample	**4818**	**100**
1 person	517	11
2 persons	1432	30
3 persons	1106	23
4 persons	1210	25
5 or more persons	553	11

Place of birth	n=	%
Total Sample	**4818**	**100**
In Australia	3908	81
In another country	910	19

16

Appendix VIII – Profile of those positive to the icon

Profile of those who agreed the icon

is easy to understand and would help in the buying process

	Easily understand	Help me pick	Use to compare	Will remind
•Average number of fridges selected	3.38	3.38	3.39	3.38
•Average star rating at consideration	3.41	3.43	3.44	3.43
•Average star rating in final choice = 3.58	3.58	3.60	3.61	3.59
•Choice rating vs. considered rating = +0.17	+0.17	+0.17	+0.17	+0.17
More likely…				
Demographics				
•Aged 55-60 years old or 50+	Y		Y	Y
•University/tertiary educated		Y	Y	
•Annual income $126,501+		Y	Y	
Shopping behaviour				
•Found it easy to shortlist the fridges, make the final choice and understand the info in the experiment	Y	Y	Y	Y
•Purchased an appliance online or shortlisted and compared products online in last 12 months	Y	Y	Y	
•Made online purchases with a smartphone in last 12 months		Y	Y	
Energy rating attitudes and behaviour				
•Views energy efficiency important in buying a fridge	Y		Y	Y
•Prefers the icon with kWh	Y	Y	Y	Y
•Top left or right positions on the screen are preferred for the icon		Y	Y	Y
•Seen the label on appliances before, and would visit www.energyrating.gov.au in the future if noticed	Y	Y	Y	Y
•Disagree they cannot afford energy efficient appliances and that it is difficult to understand which are the most energy efficient	Y	Y	Y	Y
•Agree energy efficient appliances perform at least as alternatives and pay-off financially within reasonable time; that it is normal to take into account the energy efficiency of appliances, they pay close attention to it and intend to buy one as it is a good idea	Y	Y	Y	Y
•Agree normal to take energy efficiency into account; that most family possess energy efficient appliances and expect them to also			Y	Y
Environmental attitudes and behaviour				
•Disagree that there is not much they can do about environment	Y	Y	Y	Y
•Disagree humans have the right to modify the environment to suit their needs		Y	Y	Y
•Agree they are generally concerned about environmental problems; that the balance of nature is very delicate and easily upset; that humans are severely abusing the environment; and humans are still subject to the laws of nature	Y	Y	Y	Y
•Mostly or always re-use plastic bags, turn off 'standby' modes on appliances, purchase recycled/ recyclable products, use rechargeable batteries, turn lights off when leaving the room and use the washing machine at low temperature	Y	Y	Y	Y

For further information please contact our Canberra office:

103/11 Trevillian Quay
Kingston
ACT 2604

t: +61 (0) 410 866 642

e: rmercer@instinctandreason.com