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Maximising Export Returns

Caroline Saunders and Paul Dalziel with Peter Tait, Sini Miller, Meike Guenther,
John Saunders , Paul Rutherford and Timothy Driver

Contributed presentation at the 60th AARES Annual Conference,
Canberra, ACT, 2-5 February 2016

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Maximising Export Returns

Caroline Saunders and Paul Dalziel
with Peter Tait, Sini Miller, Meike
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The Research Programme



Maximising Export Returns for New Zealand's Biological Industries

Research Update

Issue 2(2-3), June 2015

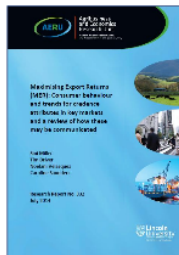
Halfway through the Project!

It has been a very busy time for the research team since our last Research Update at the end of last year. We are now halfway through the research programme and the last six months have seen: the publication of two more reports; the design and implementation of our major survey of 1,000 middle-to high-income consumers in each of five countries; and the start of our analysis of the survey responses. Two members of our research team graduated with research degrees in April, one of whom won a major Australasian prize for her PhD thesis, presented in February. Caroline Saunders and Paul Datzel have also been heavily involved in the National Science Challenge on *Our Land and Water*, and were responsible for writing an Expression of Interest for one of its three themes, focused on obtaining greater value from overseas markets. This Research Update gives a brief summary of these developments.

The MER Research Reports

The research programme has now produced three reports, all of which can be downloaded without charge at our dedicated website: www.lincoln.ac.nz/aeru/mer.

1. *Consumer behaviour and trends for credence attributes in key markets and a review of how these may be communicated.* AERU Research Report No. 332, July 2014.
2. *Communicating New Zealand's credence attributes to international consumers.* AERU Research Report No. 334, January 2015.
3. *Consumer attitudes to New Zealand food product attributes and technology use in key international markets.* AERU Research Report No. 333, May 2015.



The Ministry of Business, Innovation and Employment has funded the AERU to research how New Zealand's biological industries can use their credence attributes to maximise export returns; see www.lincoln.ac.nz/aeru/mer.



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Research Outputs

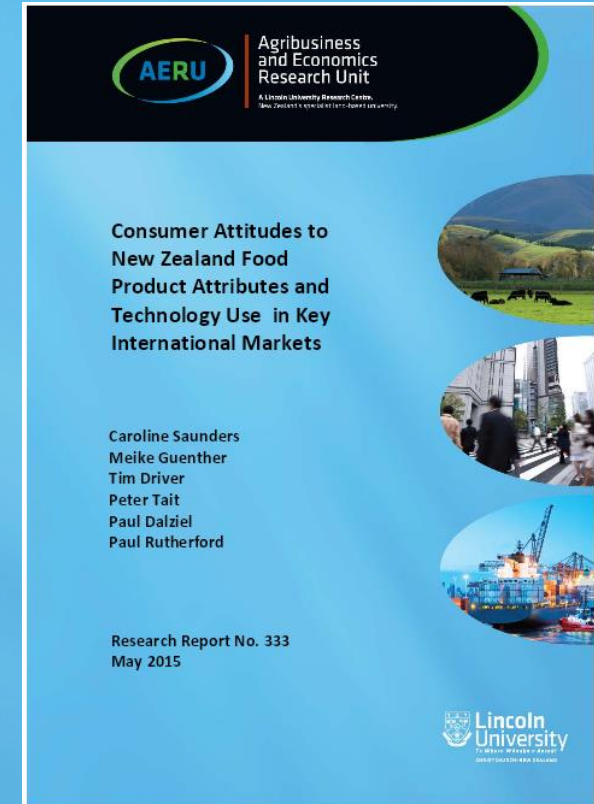
Three AERU Research Reports:

- 1) Consumer behaviour and trends for credence attributes in key markets and a review of how these may be communicated.
- 2) Communicating New Zealand's credence attributes to international consumers.
- 3) Consumer attitudes to New Zealand food product attributes and technology use in key international markets.

Several conference papers:

- AARES, Rotorua; EAAE, Naples; AES, UK; EUSAP, Seoul

Journal papers



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Purpose of today

- Comments on results
- Links to Our Land and Water
- Next steps, especially online tool – linked to MFAT tool!!! – NZ story???



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Three Integrated Research Themes

1. Consumer surveys in five countries and choice modelling used to estimate values.
2. International trade modelling to analyse impacts on New Zealand producer returns.
3. Evaluation of existing and emerging technologies that allow producers to communicate with their international customers and consumers.



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Consumer Surveys:

UK, Japan, China, Indonesia and India

- Quota sample with minimum of 1,000 middle and upper income consumers in each country who shop regularly and have heard of New Zealand.
- Choice experiment with these respondents to evaluate consumers Willingness to Pay (WTP) for attributes in food and beverages.



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Consumer attitudes towards attributes in food and beverages

- Survey questions to assess consumer attitudes and preferences towards a number of key attributes in food and beverages.
- Some attributes were assessed in more detail by examining underpinning factors.
- Choice experiments to elicit Willingness to Pay for attributes in food.

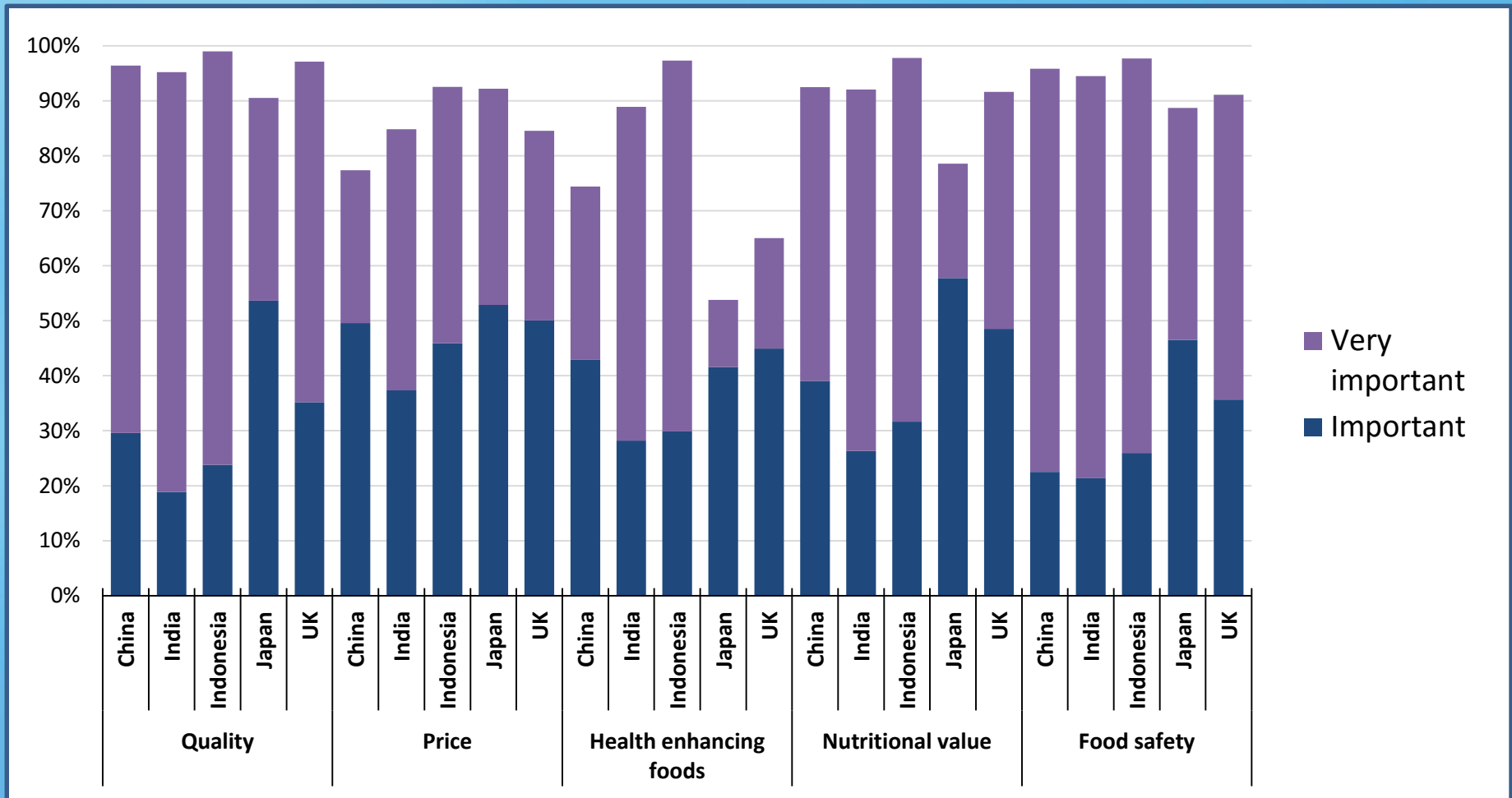


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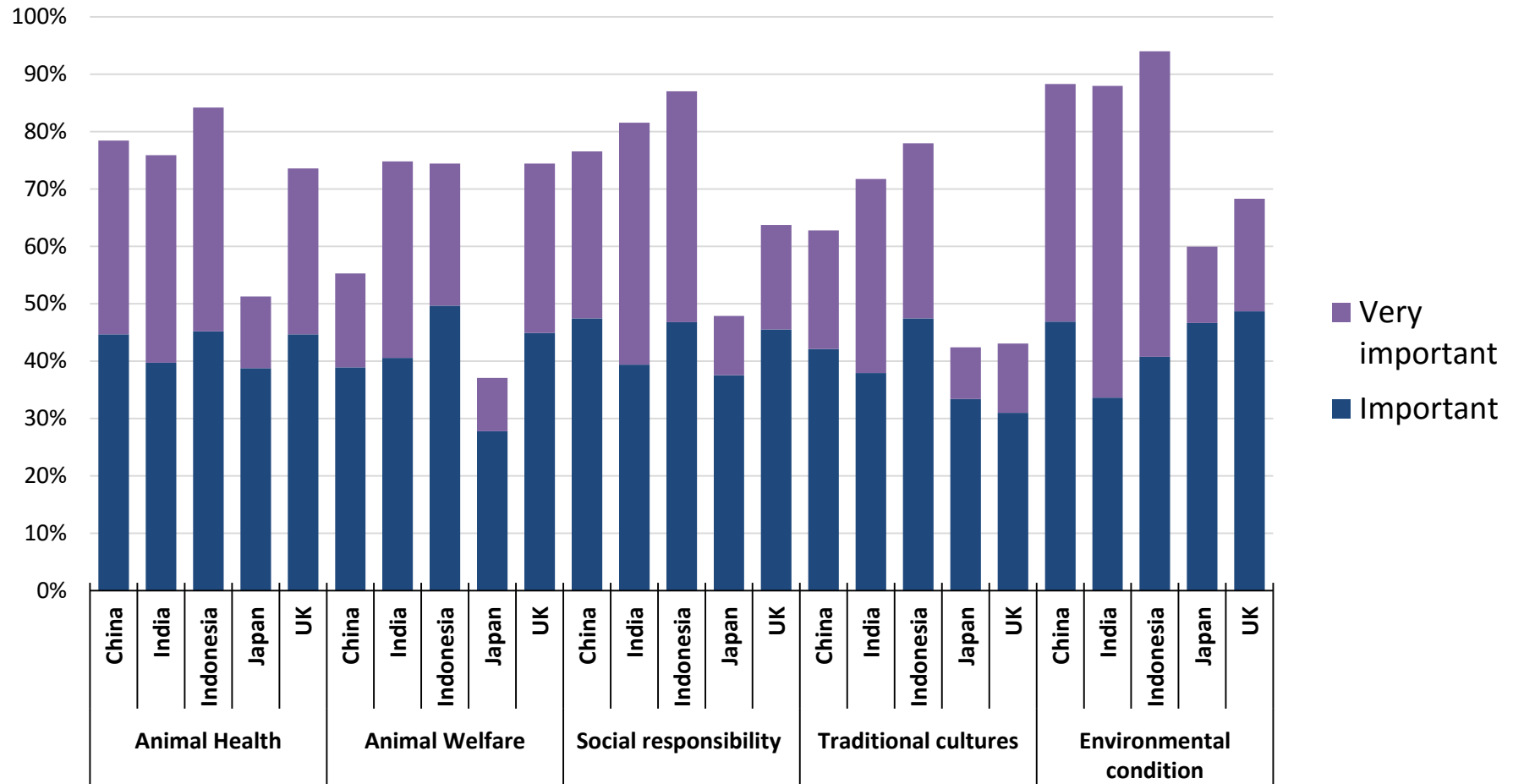
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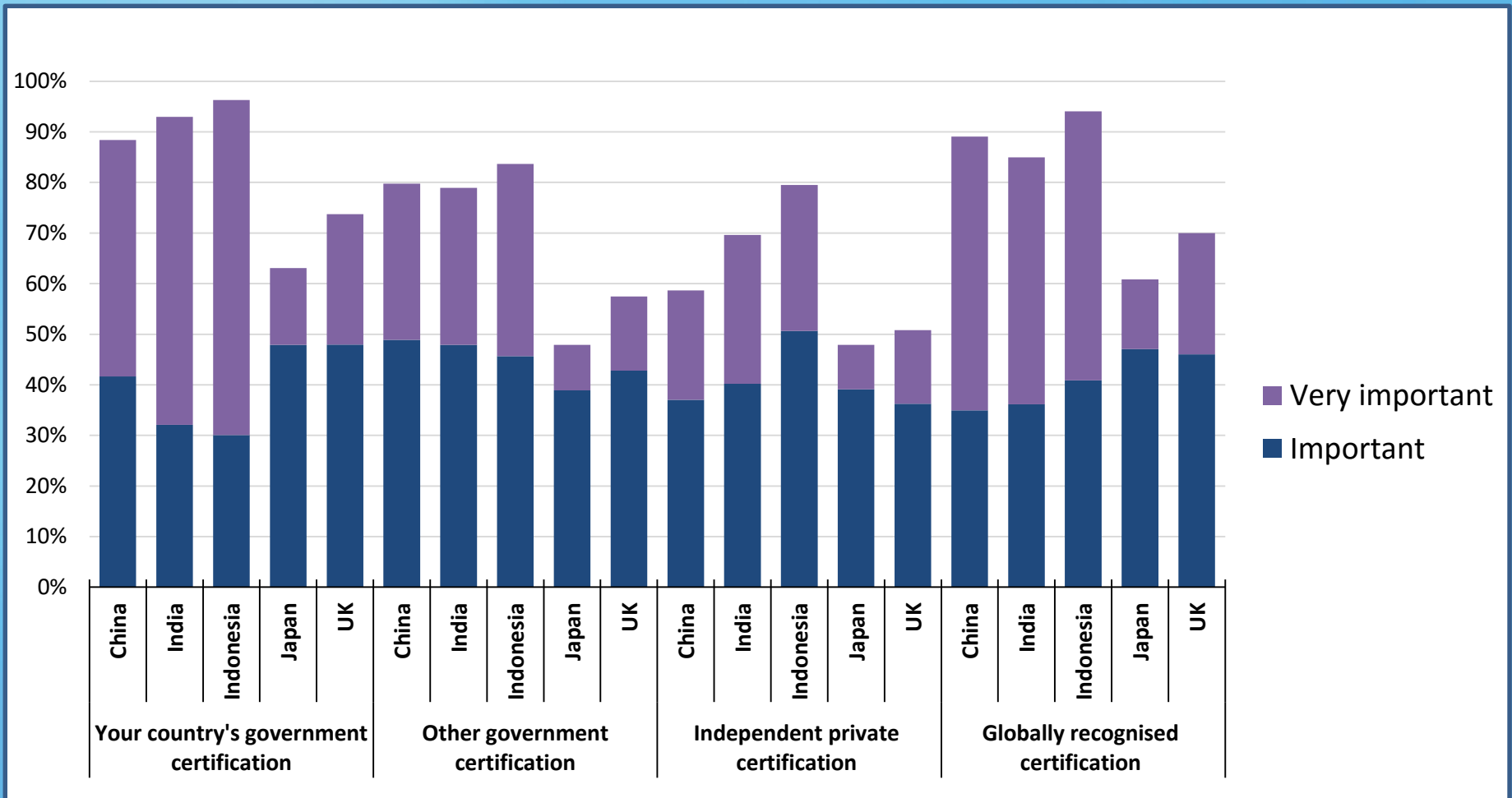
Importance of attributes when shopping for food and beverages



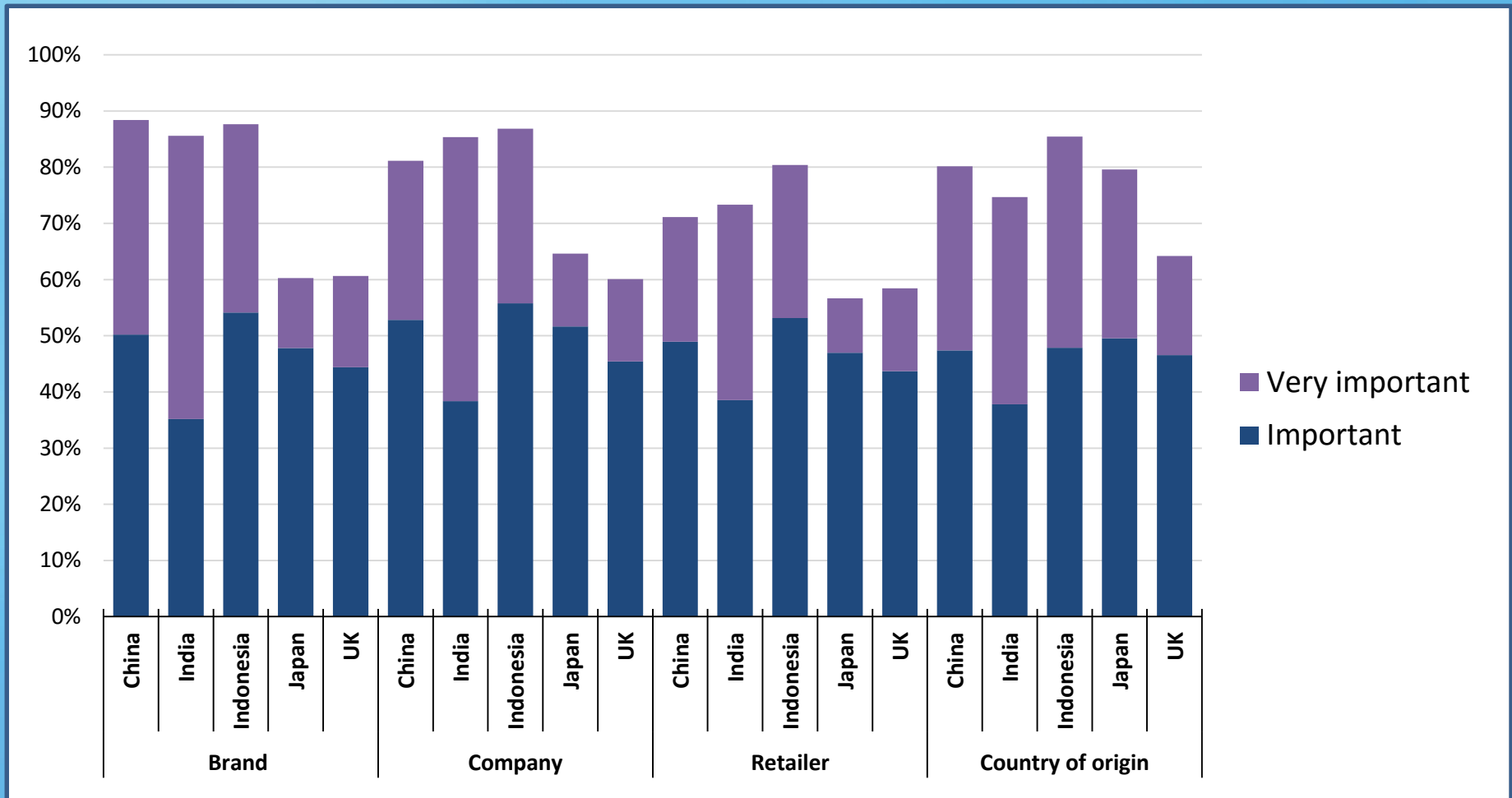
Importance of attributes when shopping for food and beverages (continued)



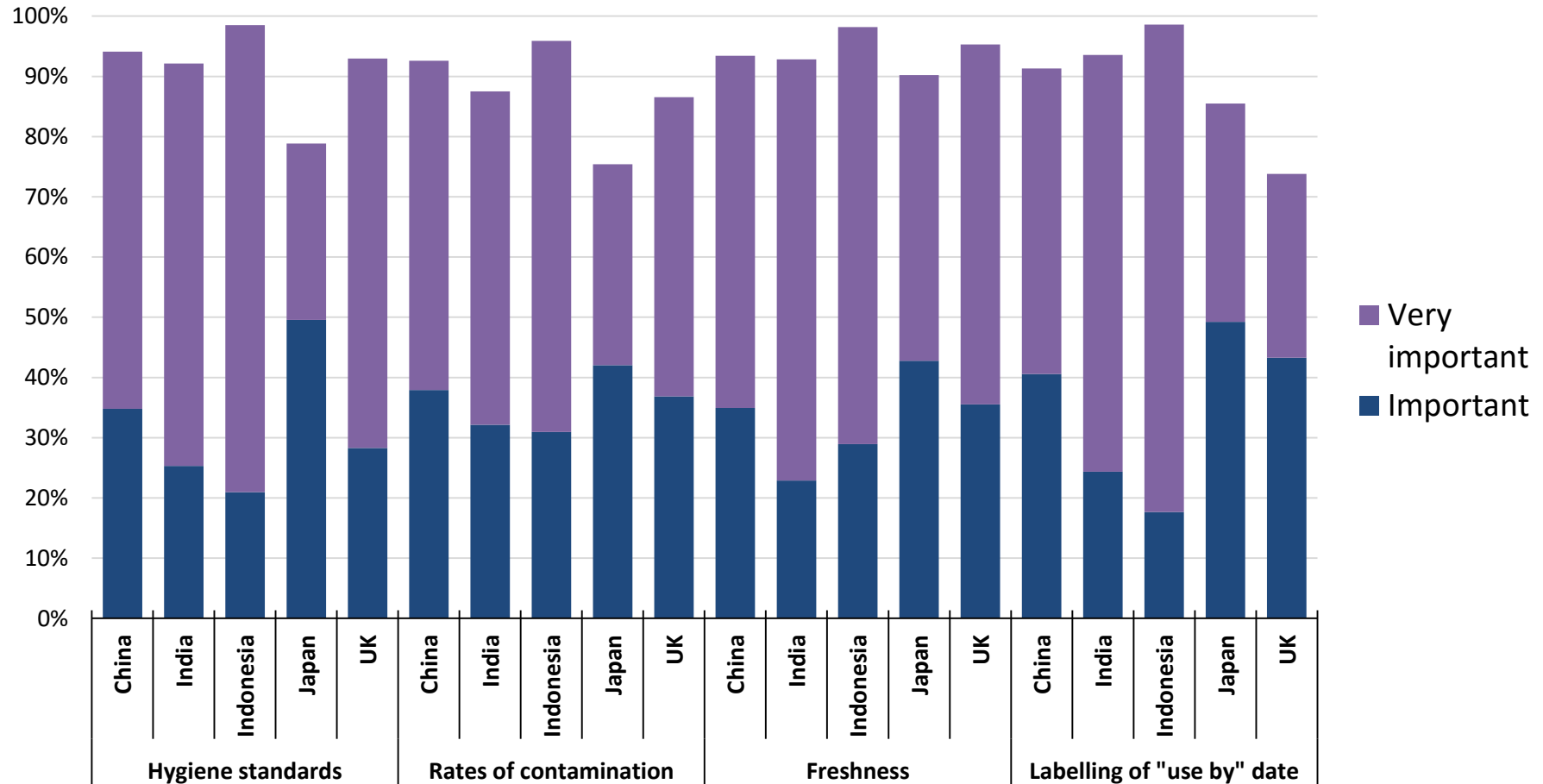
Importance of different certification types in relation to authentication



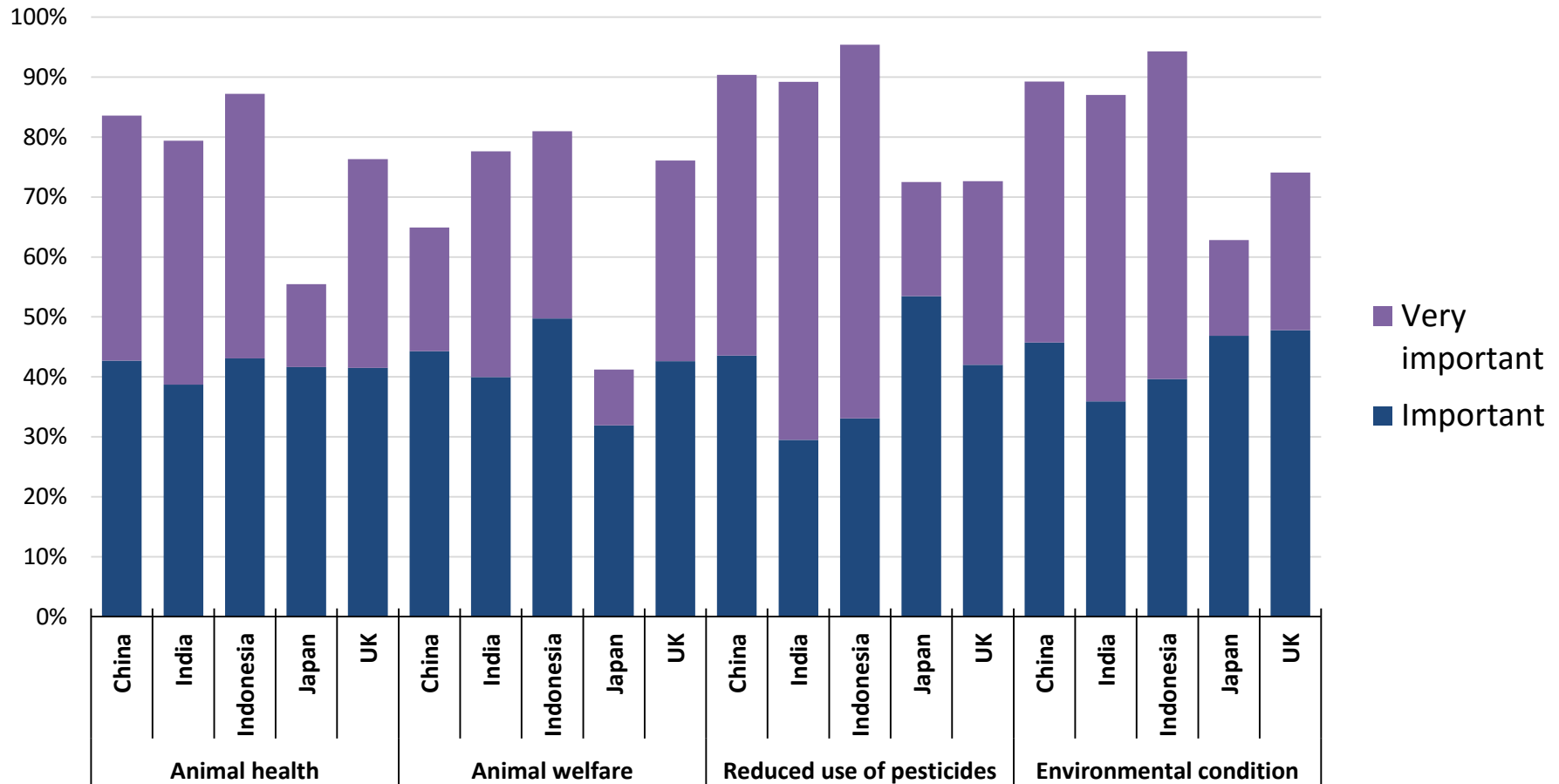
Importance of different certification types in relation to authentication (continued)



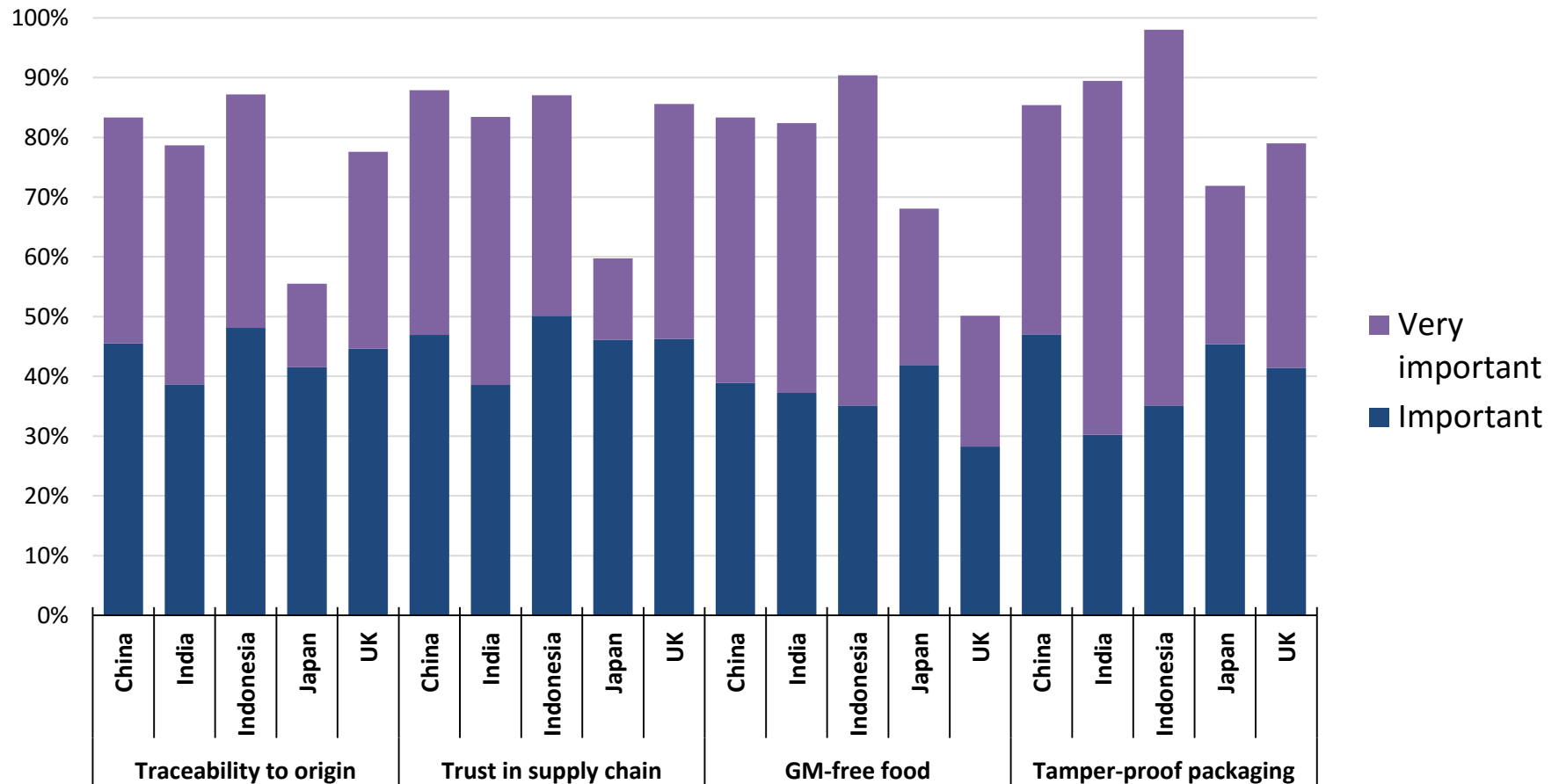
Importance of factors in relation to food safety in supply chain



Importance of factors in relation to food safety in supply chain (continued)



Importance of factors in relation to food safety in supply chain (continued)



Importance of factors associated with environmental condition in supply chain

- Air and water quality most important
- Japan: recycling
- India, Indonesia and China: organic production
- Protecting endangered species for the UK and Indonesia
- Wilderness important in China but not the other countries



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Importance of factors associated with animal welfare & health in supply chain

- Free of disease; good quality of life, etc...

But also:

- China and India natural conditions
- China mainly pasture fed
- Relatively low: free range



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Importance of factors associated with health enhancing foods

- Differs across countries
- Digestive health one of the most important
- Child and baby health especially in developing countries
- Heart and cholesterol health especially in UK and Indonesia
- Low are weight management in developing countries and mobility for all



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Importance of factors associated with social responsibility in supply chain

- Workplace safety and good working conditions ranked most important
- Fair wages especially in India, Indonesia and Japan
- Least important is freedom to join union
- Local food ranked relatively low except in Japan



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The importance of factors associated with the role of traditional cultures in supply chain

- Care for future generations and connection with the natural environment most important
- Equity and fairness was most important for the UK and second for China and third for Indonesia and Japan
- Family business lowest for all countries
- Indigenous rights high in the UK especially when compared to other countries



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Choice Modelling - WTP

- Respondents were asked what would they be willing to pay for attribute compared to the level in their normal product purchase



- Willingness-to-pay (WTP) is shown as change from a minimum to high attribute level.



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WTP results – animal welfare

- UK – 12% for dairy and meat
- China – meat 8%; dairy 12%; veg 13% and wine 26%
- Indonesia – 21% for meat and 11% for dairy
- Japan – meat 19%; dairy 59%; veg 50%
- India – meat 71%; dairy 49%



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WTP – Social responsibility

- UK – meat 29%; dairy 25%; fruit and veg 35% and wine 20%
- Indonesia - Fruit and veg 38%; wine 93%
- Japan – Fruit and veg 63%
- India – Meat 90%; Fruit and veg 36%; wine 31%



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Factors most associated with New Zealand

- Clean environment and water most common
- Open spaces
- Lowest for innovative and integrity
- Food safety and quality relatively higher in developing countries



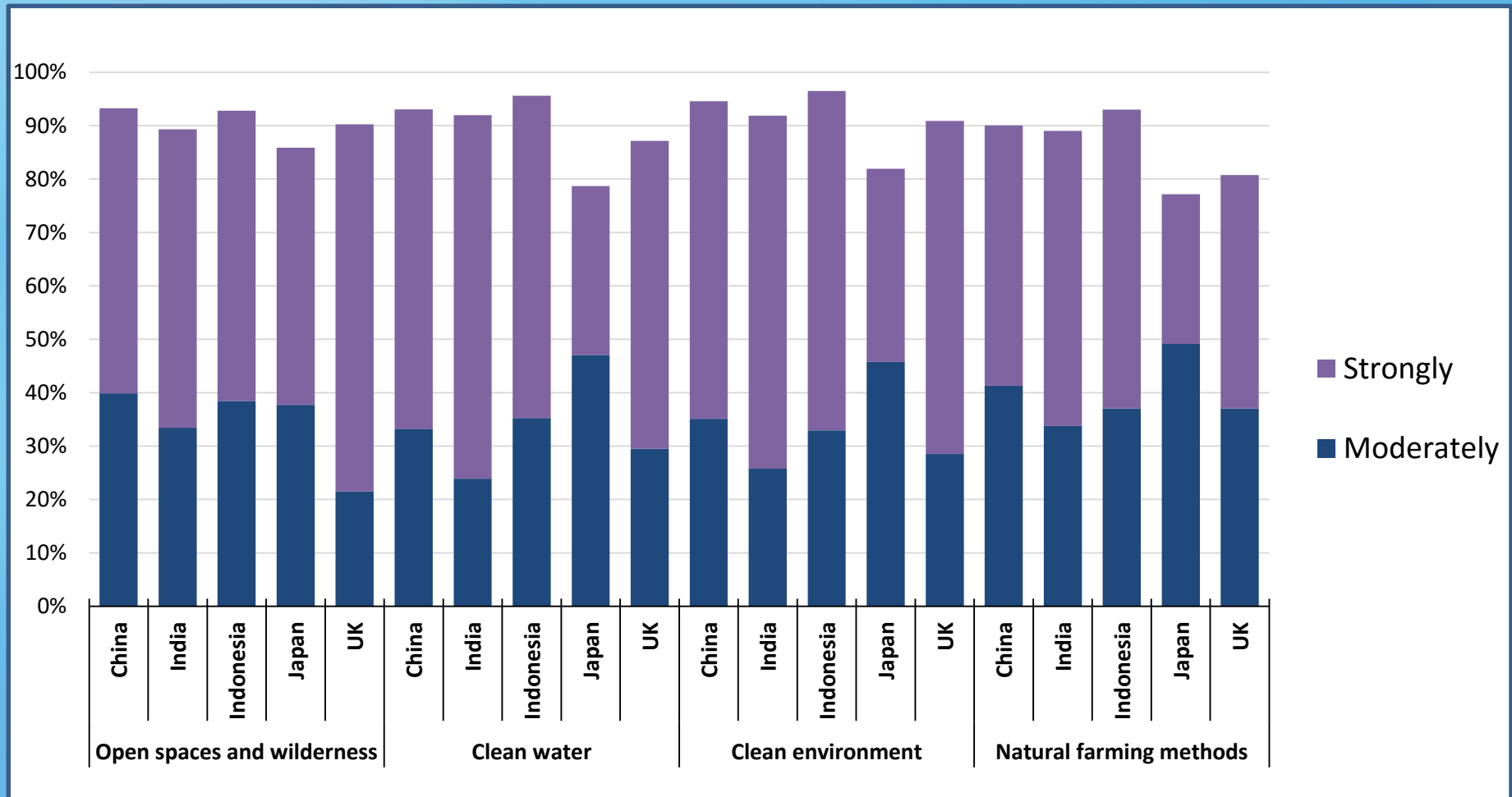
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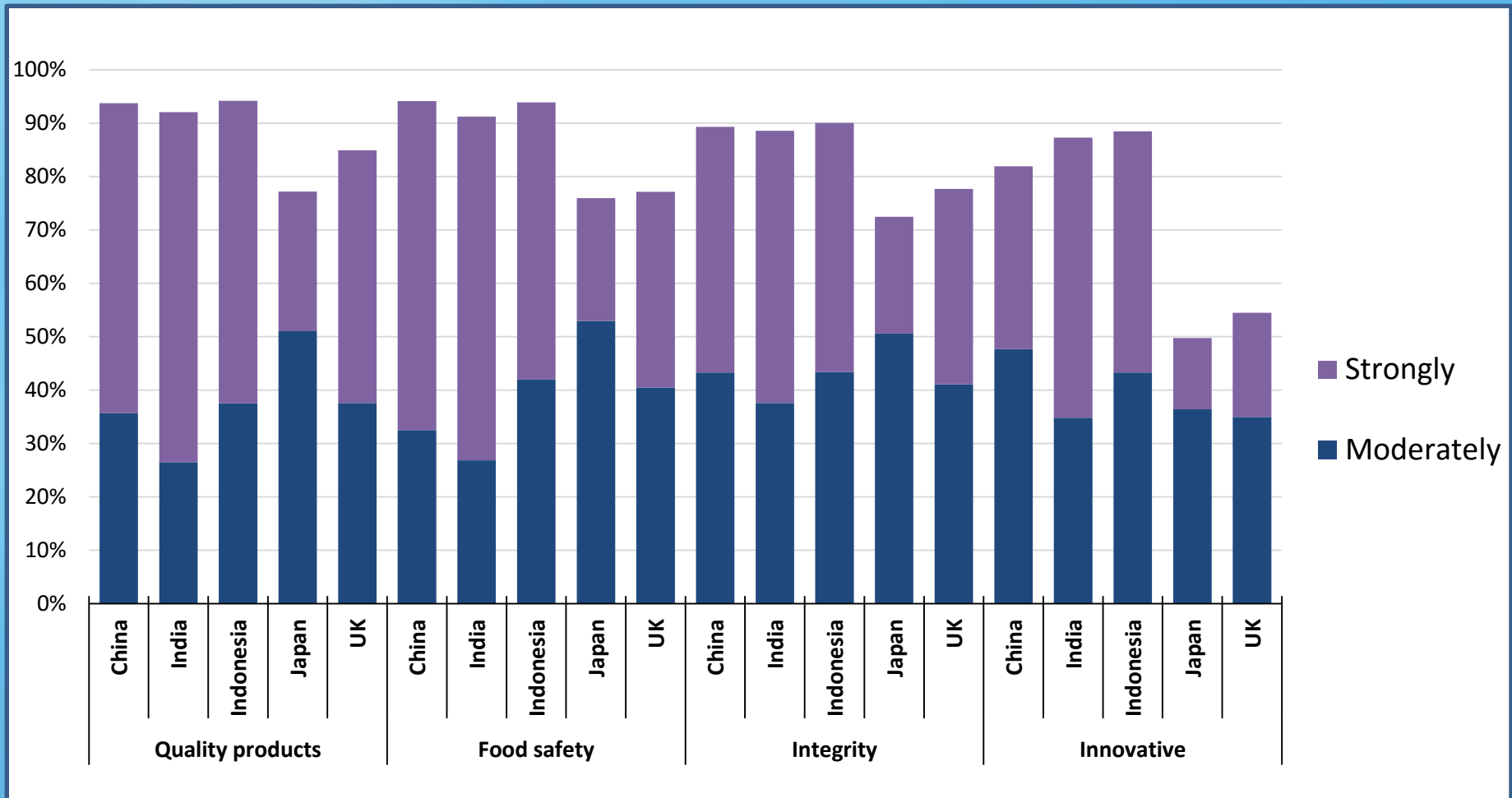


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How much do you associate the following factors with New Zealand



How much do you associate the following factors with New Zealand (continued)



Digital media & smart technology use

Survey questions on consumer attitudes and behaviours towards the use of digital media and smart technology in information gathering and purchasing of food and beverages.



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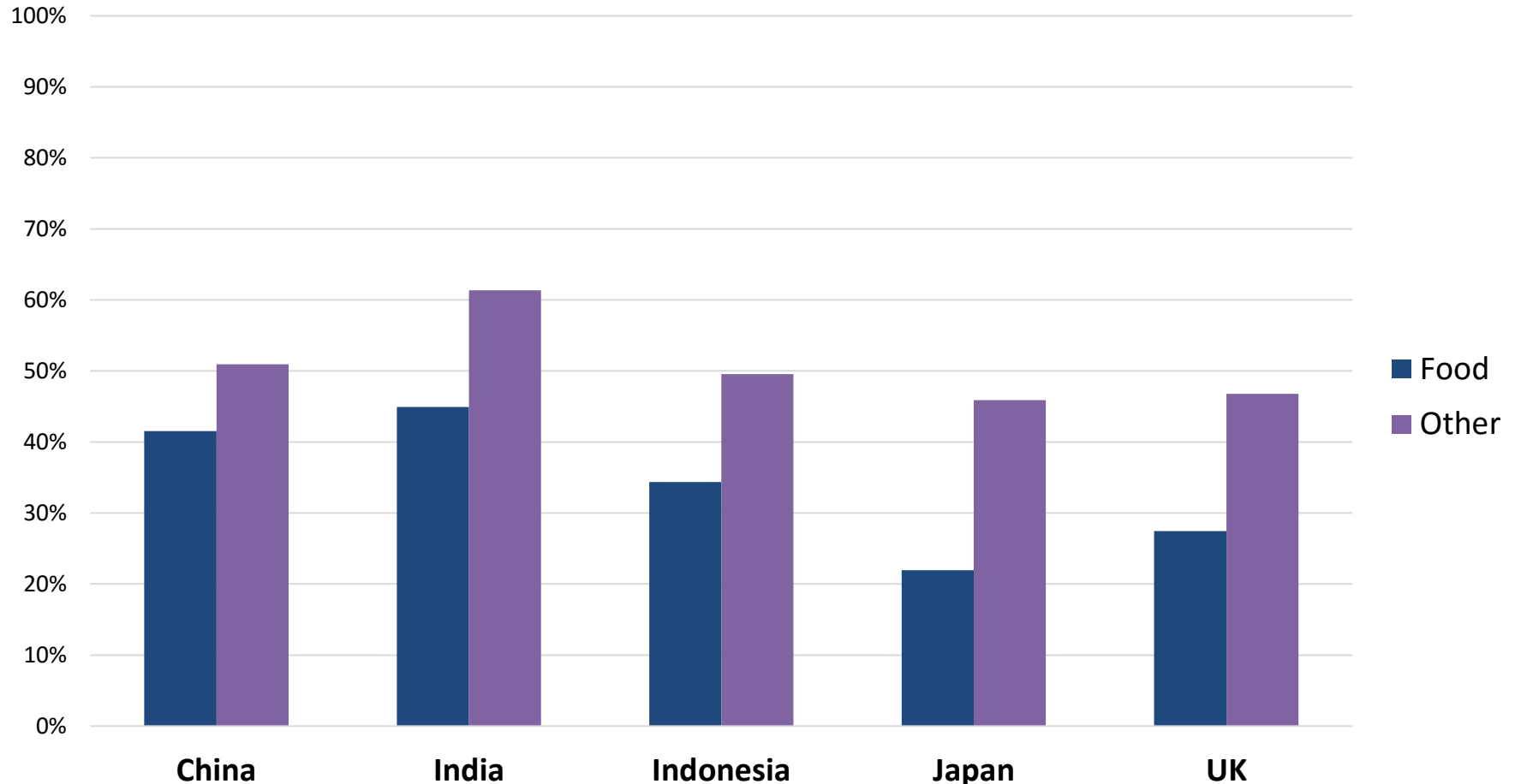
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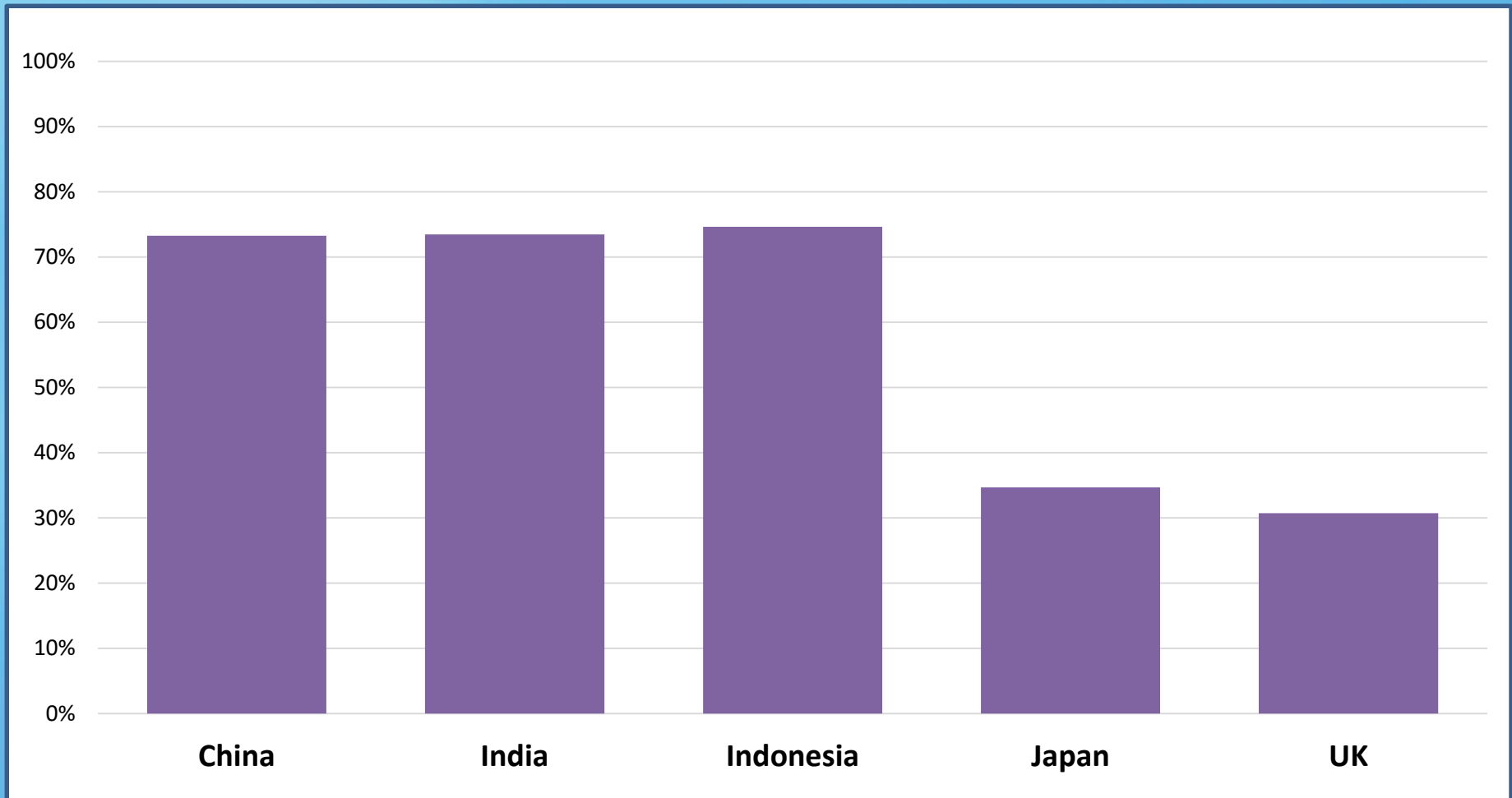


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What percentage of your shopping is done online?



Have you ever used a mobile app to find out more about a food product and beverages?



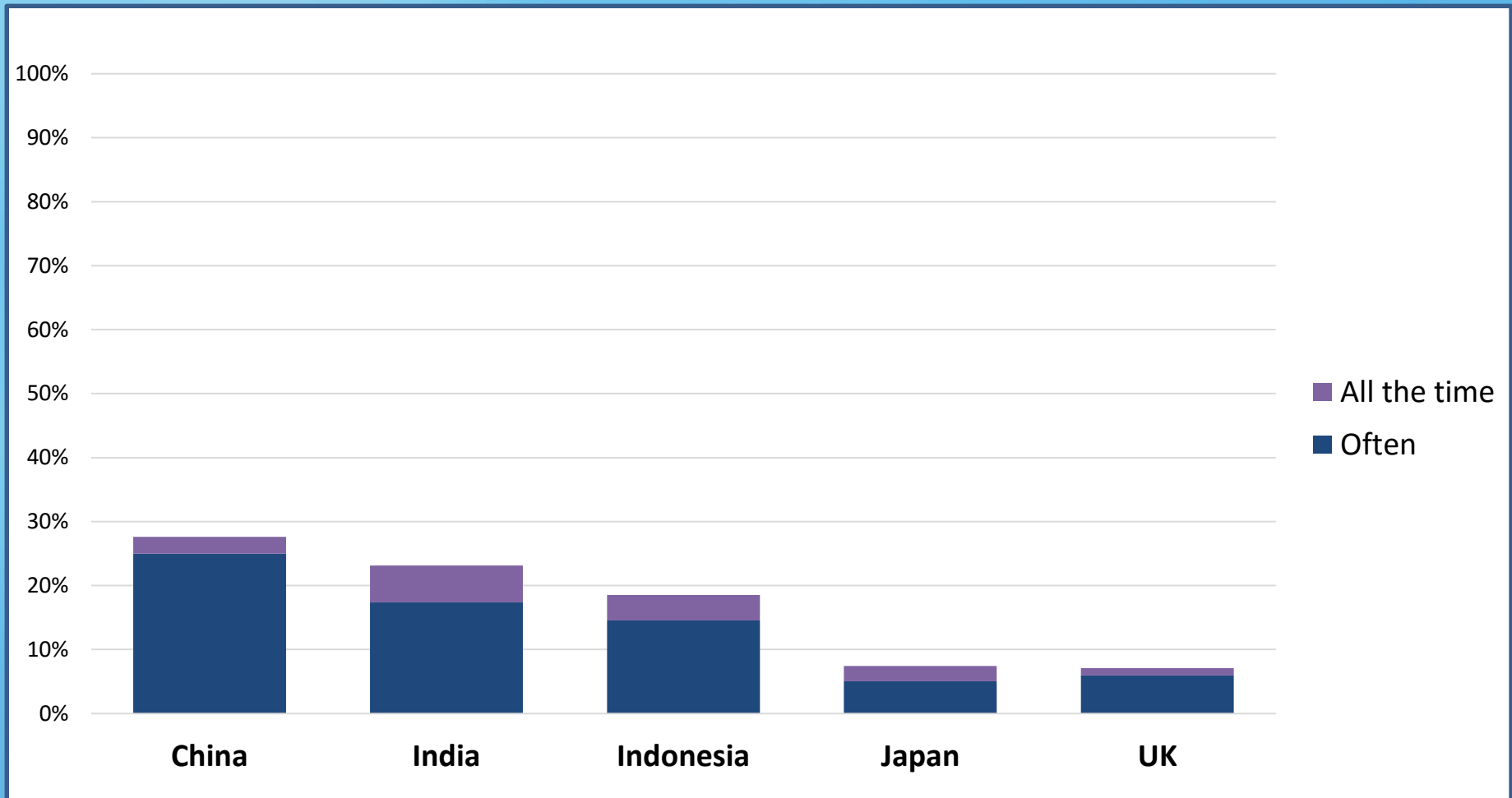
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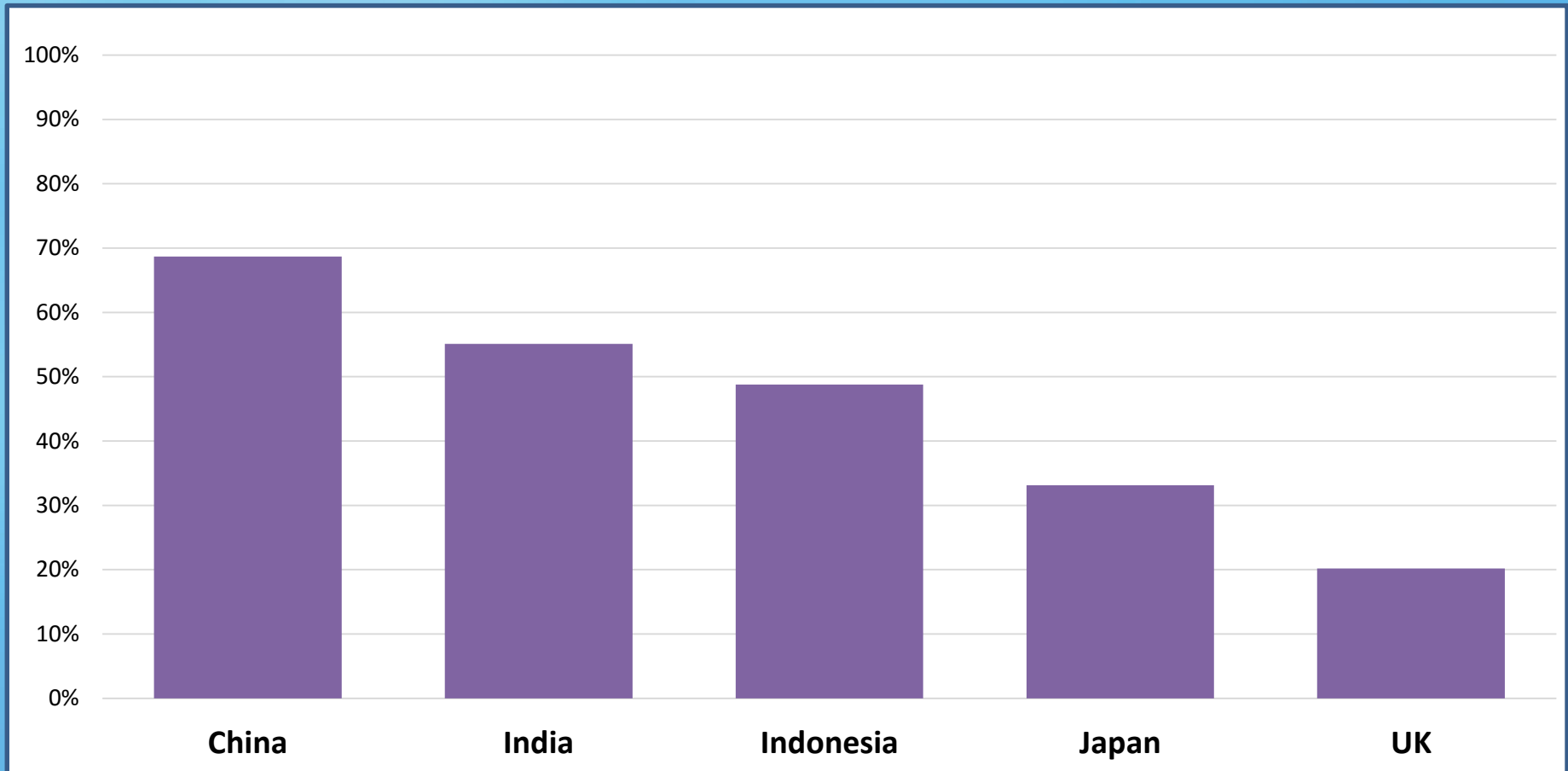


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Do you use your mobile device to purchase food and beverages?



Have you ever used your mobile device in conjunction with barcodes and/or QR codes for **finding information** about food and beverages?



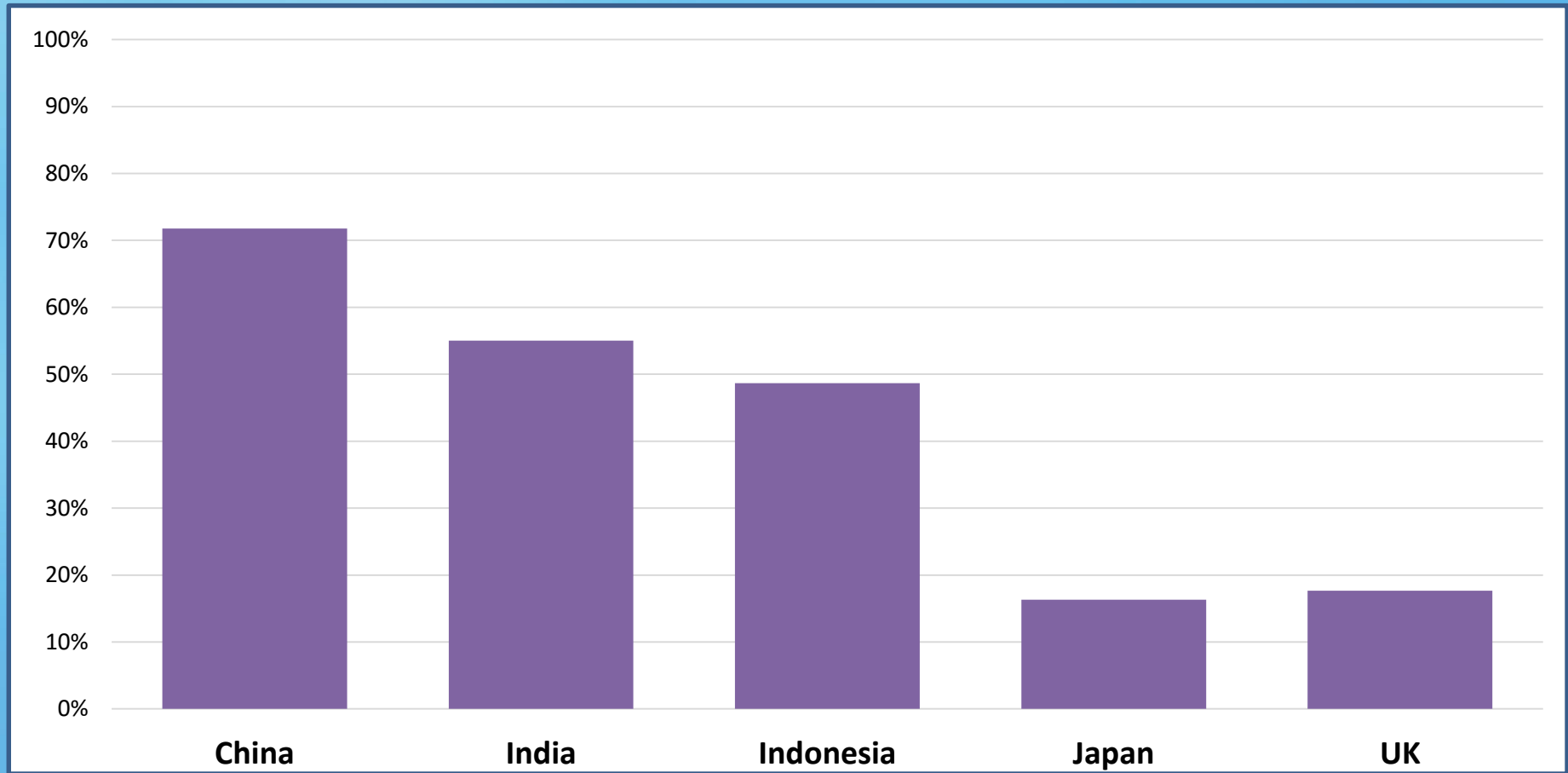
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Have you ever used your mobile device in conjunction with barcodes and/or QR codes for **purchasing** food and beverages?



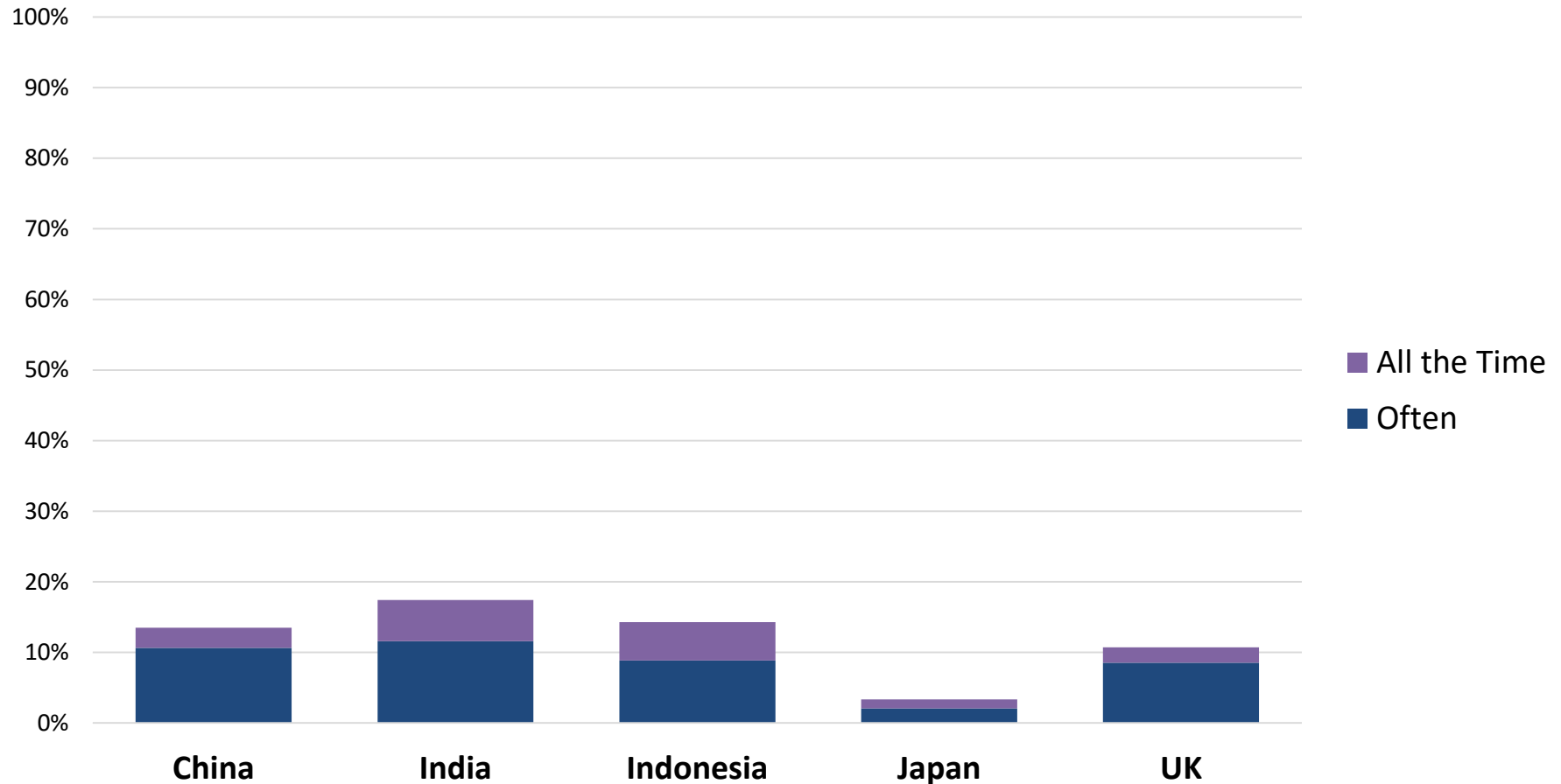
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Have you ever used microchip reading technology?



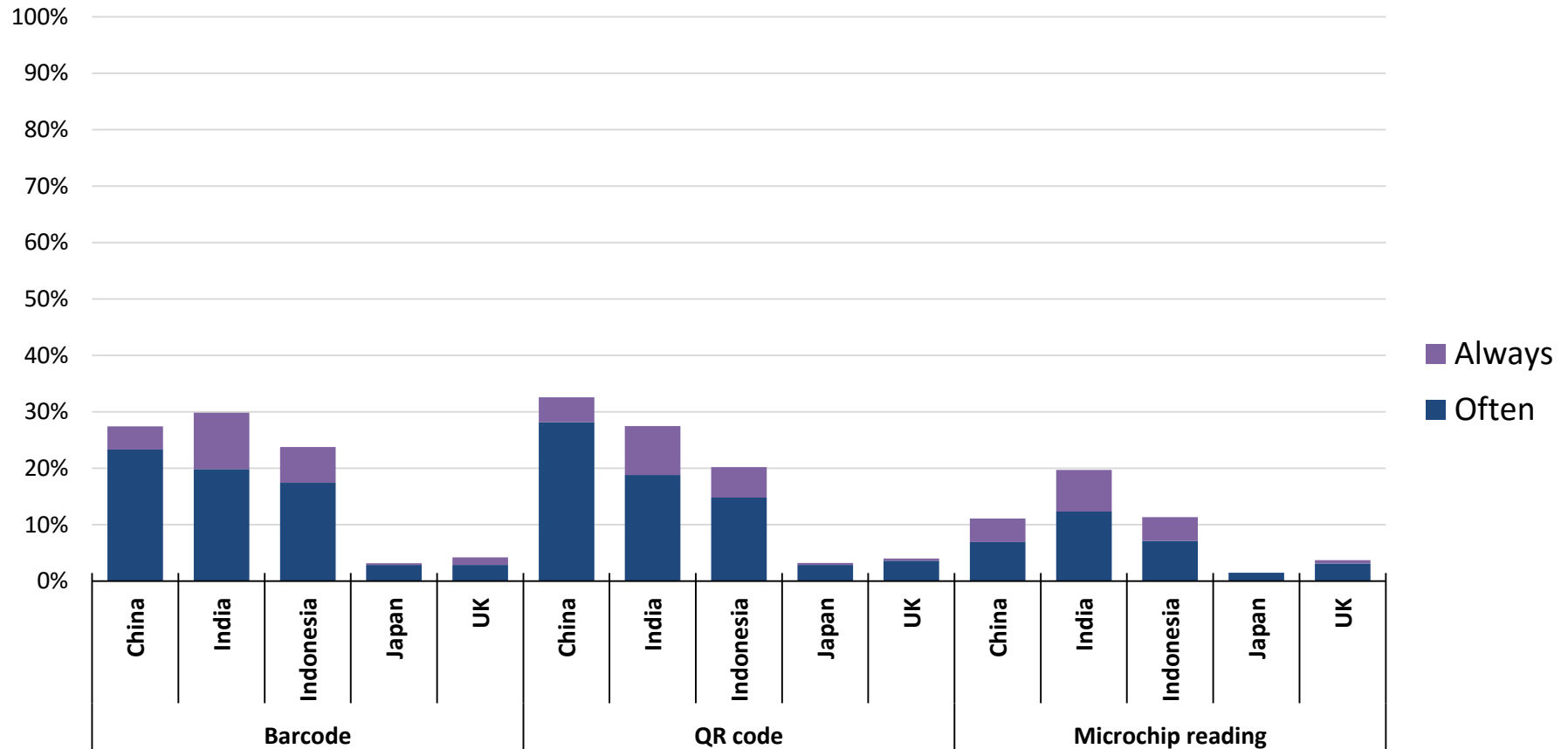
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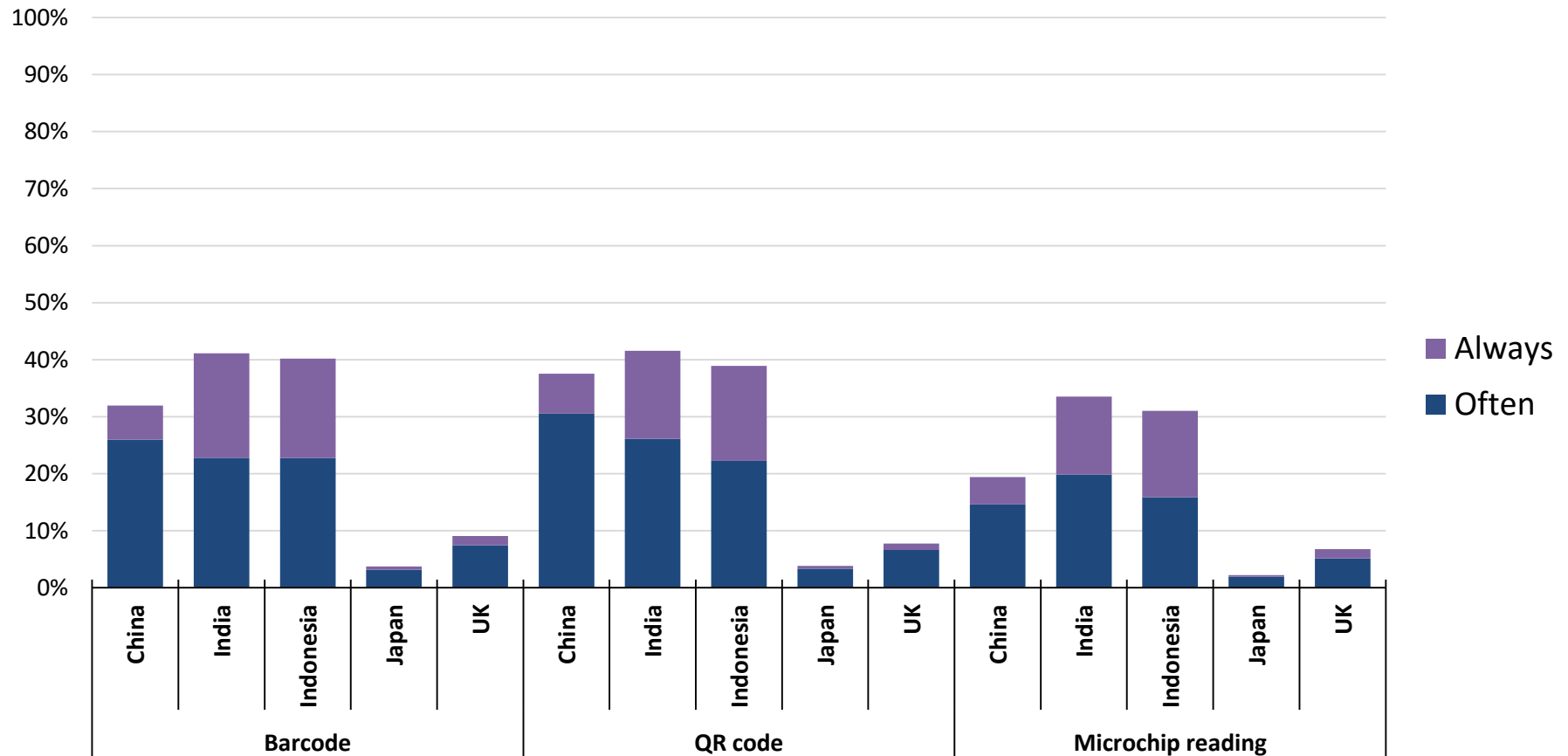


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Do you **verify** a food and beverage product's credentials with any of the following:



If available, **would you verify** a food and beverage product's credentials with any of the following:



Trade Model - LTEM

- Non-spatial, partial equilibrium international trade model
- Focus on agriculture with an environmental sub-module
- MFAT NZ China FTA; Defra; EU NZ EU FTA
- Data from FAO, OECD, WTO and IPCC; base year 2012, projections to 2024



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Trade Model - LTEM

- Model includes:
 - 21 countries or regions (incl. ROW)
 - 22 commodities (incl. five for dairy industry, four livestock, three for oilseed complex)
- Results show prices, quantities, net trade and GHG emissions



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Economic impact on New Zealand

- Examining the potential impact of varying levels of premiums for attributes in food in UK, Korea, Japan, India, China and Indonesia on New Zealand producers
- Method: Lincoln Trade and Environment Model (LTEM), partial equilibrium international trade model
- Data from FAO, OECD, WTO
- Base year 2012, projections to 2024
- Model includes:
 - 23 countries or regions (incl. ROW)
 - 23 commodities



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Impact on Producer Returns (percentage change from base in 2024)

	10 % premium on credence attributes in food	20 % premium on credence attributes in food	50 % premium on credence attributes in food
Beef	8	16	43
Sheep meat	10	21	56
Butter	9	19	51
Cheese	12	25	69
Whole Milk powder	5	10	25
Skim Milk Powder	6	12	28



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Where to from here?

- Ongoing analysis of surveys
- Additional trade modelling
- Design of online tool to aid decision making by firms



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Maximising Export Returns

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Markets



Qualities



View of NZ



Digital



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China



India



Indonesia



Japan



UK



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Home Markets Qualities View of NZ Digital About



CHINA

Chinese consumers care about (from most to least):

1. Food Safety
2. Quality
3. Environmental Quality
4. Health Food
5. Social Responsibility
6. Price
7. Animal Welfare

Comments from the Advisory Board?

- Is this useful to you?
- How should we populate this?
- How can we communicate to stakeholders that value chain analysis is important?
- How can we build with our other work on value chain analysis?



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Links with National Science Challenges



The government has defined 11 National Science Challenges targeting a series of goals that could have major and enduring benefits for New Zealand.

One of the National Science Challenges focuses on:

Our Land and Water
Toitū te Whenua, Toiora te Wai



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The National Science Challenge on *Our Land and Water* brings together fifteen of the country's large research organisations to collaborate on several important research questions organised under four headings (or themes).



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The Four Themes

1. Collaborative capacity
2. Resilient and responsible land use systems
3. Greater value from global markets

These themes feed into, and are integrated by:

4. The Nexus



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Theme 3: Greater value from global markets

- The OLW Performance Framework describes two major activities for Theme 3 research:
 - Creating the New Zealand story; and
 - Creating shared value.
- The agreed priority for the 2016-2019 period is the second of these activities.

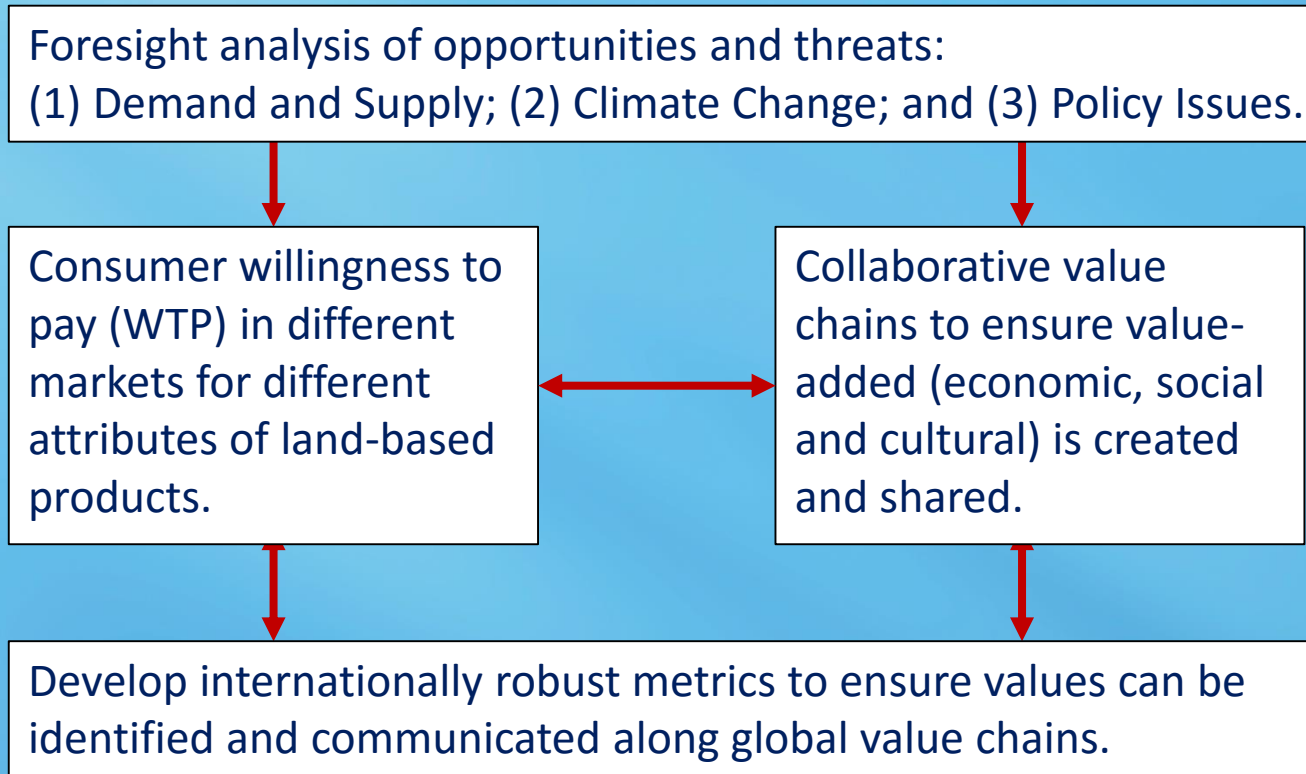


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Four Aspects to the Revised Focus



SO...

- Credence attributes are important and interrelated.
- They vary in importance and definition across commodities and countries.
- Do we want credence attributes related to 'NZ Story' - or associated with New Zealand?



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