

A two-city comparison of UHT milk product preferences in China (Beijing and Shanghai)

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TE WHARE WĀNAKA O AORAKI



Context

- New Zealand relies on export of primary products, particularly dairy products
- China received 41% of NZ dairy exports by value, accounting for 20% of total NZ agricultural exports by value, in 2021 (StatsNZ, 2021)
- Understanding consumer attitudes to and preferences for UHT milk products could enhance dairy value chains and provide for product attributes that consumers want

Background

- Ultra High Temperature (UHT) milk – exported to China
- Beijing and Shanghai two largest Chinese cities, economically important
- Findings of previous comparative studies of Beijing and Shanghai have suggested that **marketers may need region-specific marketing strategy in China** due to differences in consumer preferences and behaviour between the two (Frank et al., 2014; Li et al., 2020; Liu, 2014; Ma, 2015; Wang et al., 2017; Wang et al., 2020)

Survey Overview

- Survey conducted in April/May 2021 - online
- 588 consumers in Beijing; 968 consumers in Shanghai
- **Demographics:**
 - Very similar demographic profiles in Beijing and Shanghai;
 - Slightly more *female* participants in Shanghai; slightly more educated participants in Beijing
 - Participants screened if:
 - Lived in a city other than Beijing or Shanghai
 - Purchased liquid UHT milk *less than monthly* or *never*

Survey Questions

- UHT milk consumption behaviour
- **Country-of-origin (including New Zealand)**
- **Importance of UHT milk product attributes**
- **Use of digital media and smart technology**

Country of Origin

How often do you **purchase** UHT milk with the following **country of origin**?

Which countries do you think produce the **highest quality UHT milk**? (Ranking)

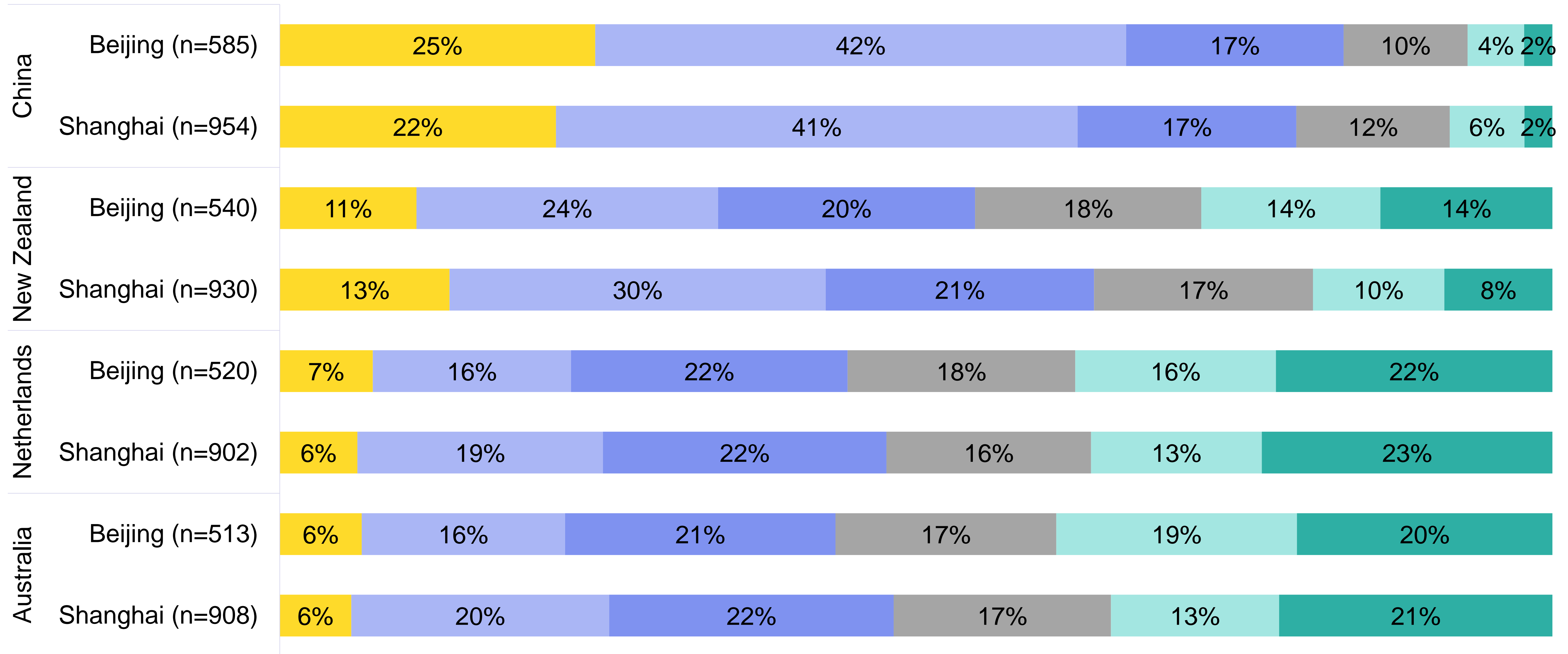
Why did you purchase **New Zealand UHT milk**?

How often do you purchase UHT milk with the following country of origin? *Daily/Weekly*

Beijing		Shanghai	
Rank	Country	Rank	Country
1	China	1	China
2	New Zealand	2	New Zealand
3	Netherlands	3	Australia
4	Australia	4	Netherlands
5	Austria	5	Germany
6	Germany	6	Austria
7	Italy	7	USA
8	USA	8	Italy
9	France	9	Poland
10	Spain	10	Belgium
11	Poland	11	France
12	Belgium	12	South Korea
13	South Korea	13	Spain

How often do you purchase UHT milk with the following country of origin?

■ Daily
 ■ Weekly
 ■ Fortnightly
 ■ Monthly
 ■ Less than Monthly
 ■ Never



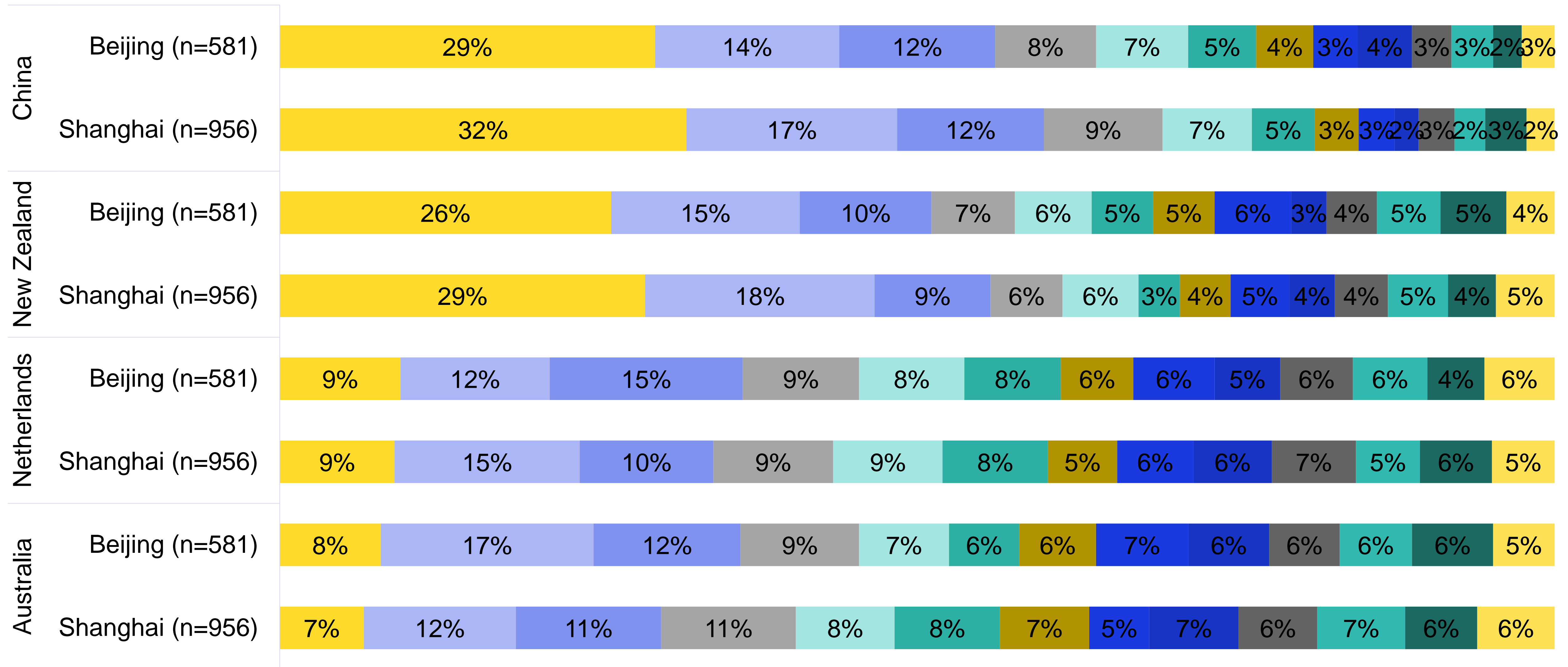
Which countries do you think produce the highest quality UHT milk?

Ranking

Beijing		Shanghai	
Rank	Country	Rank	Country
1	China	1	China
2	New Zealand	2	New Zealand
3	Australia	3	Netherlands
4	Netherlands	4	Australia
5	Germany	5	Germany
6	Austria	6	France
7	Poland	7	USA
8	France	8	Poland
9	USA	9	Belgium
10	Italy	10	Austria
11	Belgium	11	Italy
12	Spain	12	South Korea
13	South Korea	13	Spain

Which countries do you think produce the highest quality UHT milk?

■ First ■ 2 ■ 3 ■ 4 ■ 5 ■ 6 ■ 7 ■ 8 ■ 9 ■ 10 ■ 11 ■ 12 ■ 13

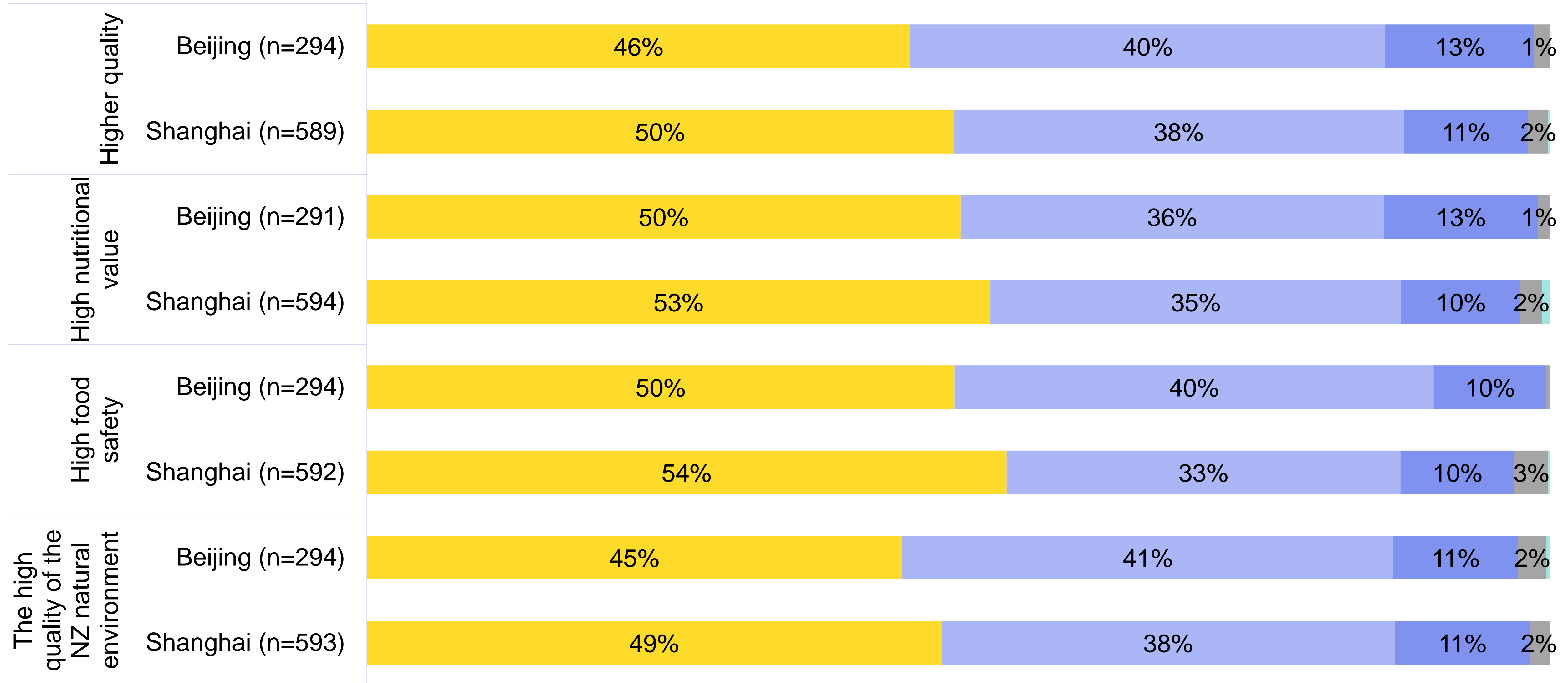


Why did you purchase New Zealand UHT milk? *Very important/Important*

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	High food safety	1	Higher quality
2	The high quality of the NZ natural environment	2	High nutritional value
3	Higher quality	3	High food safety
4	Organic production	4	The high quality of the NZ natural environment
5	High nutritional value	5	Value for price
6	Value for price	6	Organic production
7	Social responsibility of production	7	Social responsibility of production
8	It is a high-end product	8	Traceability to producer
9	Traceability to producer	9	It is a high-end product
10	Expertise of the farmers and producers	10	Expertise of the farmers and producers
11	Distinctive taste	11	Distinctive taste

Why did you purchase New Zealand UHT milk?

■ Very important
 ■ Important
 ■ Neutral
 ■ Unimportant
 ■ Not at all important



Importance of UHT Milk Product Attributes

What does your **ideal UHT milk product** look like?

How important did you think the following factors are for:

high food safety of UHT milk?

socially responsible production of UHT milk?

higher quality UHT milk?

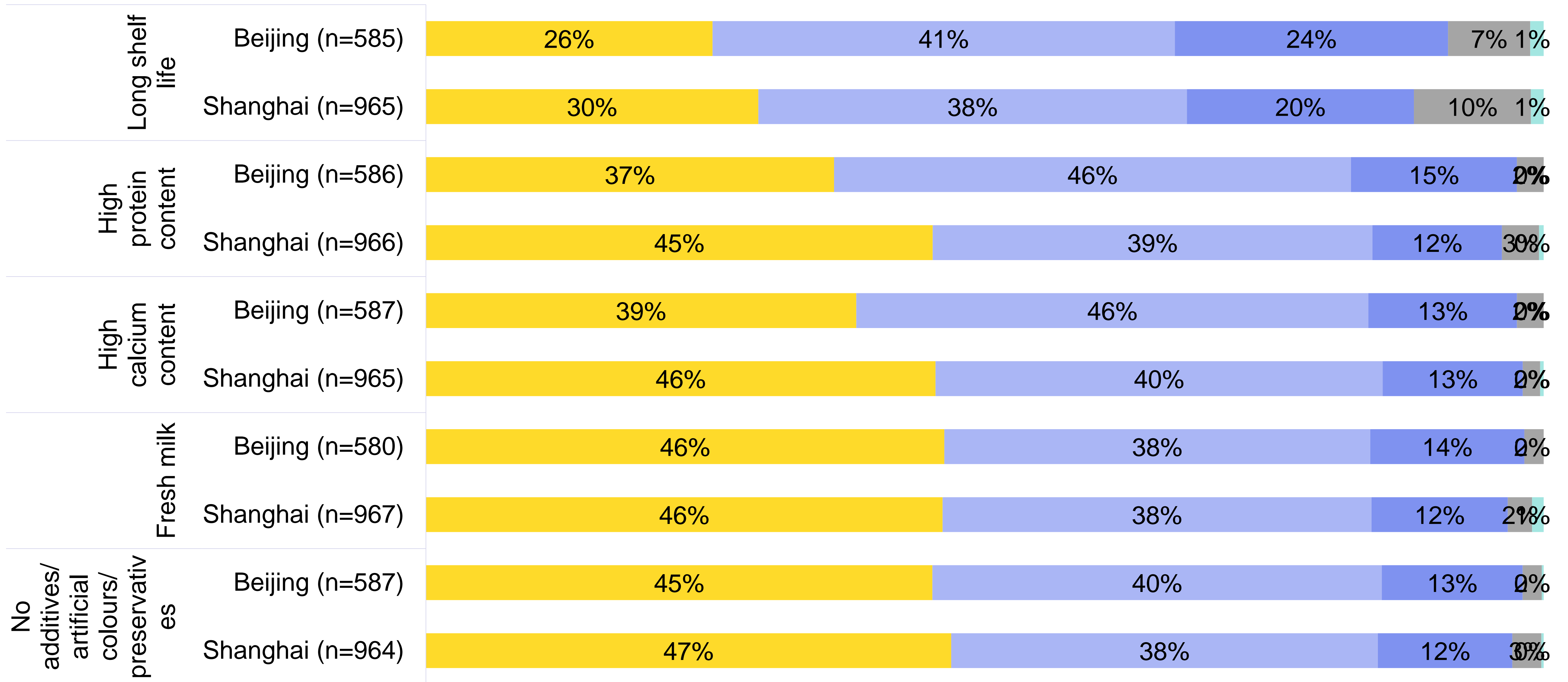
high nutritional value of UHT milk?

What does your ideal UHT milk product look like?

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	No additives/artificial colours/preservatives	1	High calcium content
2	Fresh milk	2	No additives/artificial colours/preservatives
3	High calcium content	3	High protein content
4	High protein content	4	Fresh milk
5	Free from Genetically Modified Organisms (GMOs)	5	Made with milk from environmentally sustainable farms
6	Made with milk from environmentally sustainable farms	6	Organic milk
7	Made with milk from socially responsible farms	7	Made with milk from socially responsible farms
8	Organic milk	8	Free from Genetically Modified Organisms (GMOs)
9	A2	9	Individual serve packaging
10	Individual serve packaging	10	A2
11	Added probiotics	11	Added probiotics
12	Low fat	12	No sugar
13	Long shelf life	13	Lactose free
14	Lactose free	14	Fermented
15	No sugar	15	Low fat
16	Flavoured	16	Full fat
17	Fermented	17	Flavoured
18	Full fat	18	Long shelf life

What does your ideal UHT milk product look like?

■ Very important
 ■ Important
 ■ Neutral
 ■ Unimportant
 ■ Very unimportant

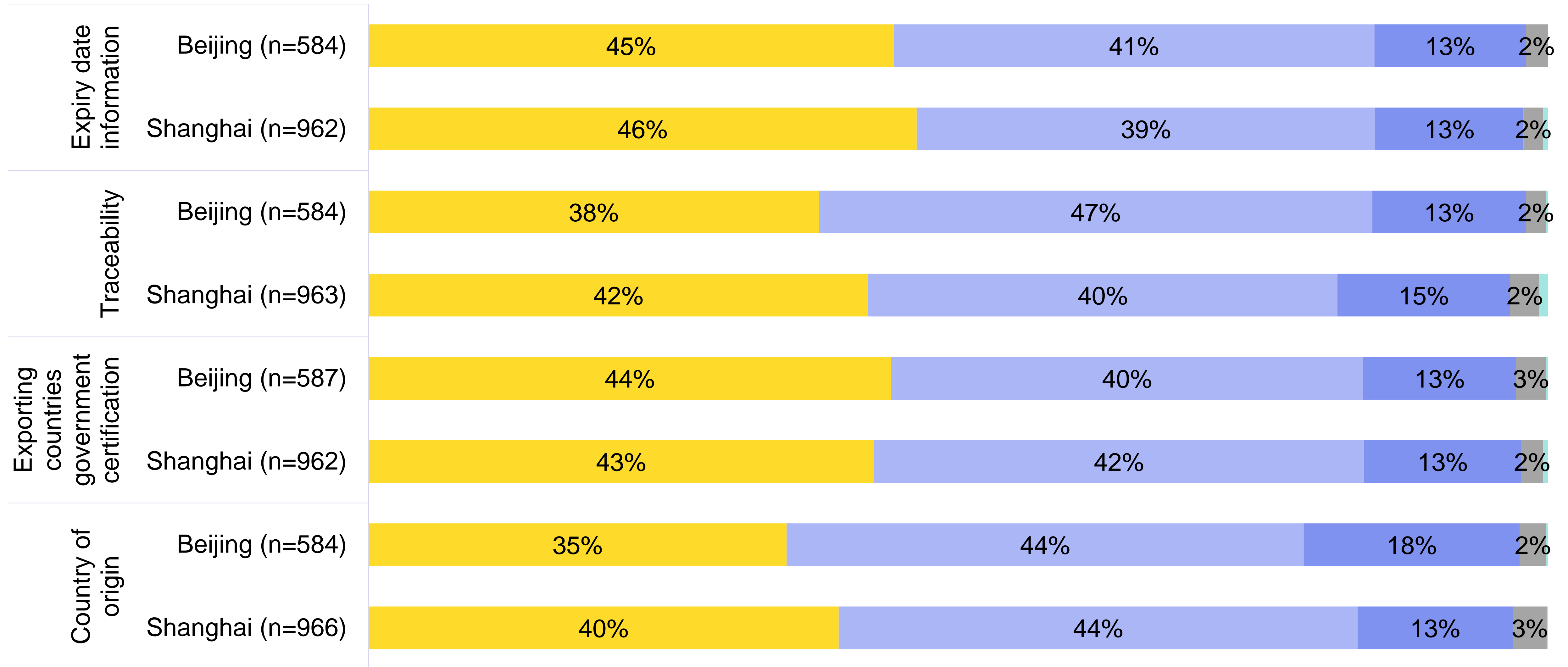


How important did you think the following factors are for high food safety of UHT milk?

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	Date of manufacture	1	Date of manufacture
2	Reduced use of agrichemicals	2	Reduced use of agrichemicals
3	High quality of the on-farm natural environment	3	Expiry date information
4	Organic production	4	High quality of the on-farm natural environment
5	Chinese government certification	5	Organic production
6	Expiry date information	6	Exporting countries government certification
7	Traceability	7	Chinese government certification
8	Exporting countries government certification	8	Country of origin
9	Socially responsible producer	9	Socially responsible producer
10	Batch number information	10	Traceability
11	Country of origin	11	Batch number information
12	Independent private certification	12	Independent private certification
13	Familiar retailer	13	Familiar retailer

How important did you think the following factors are for high food safety of UHT milk?

■ Very important
 ■ Important
 ■ Neutral
 ■ Unimportant
 ■ Very unimportant

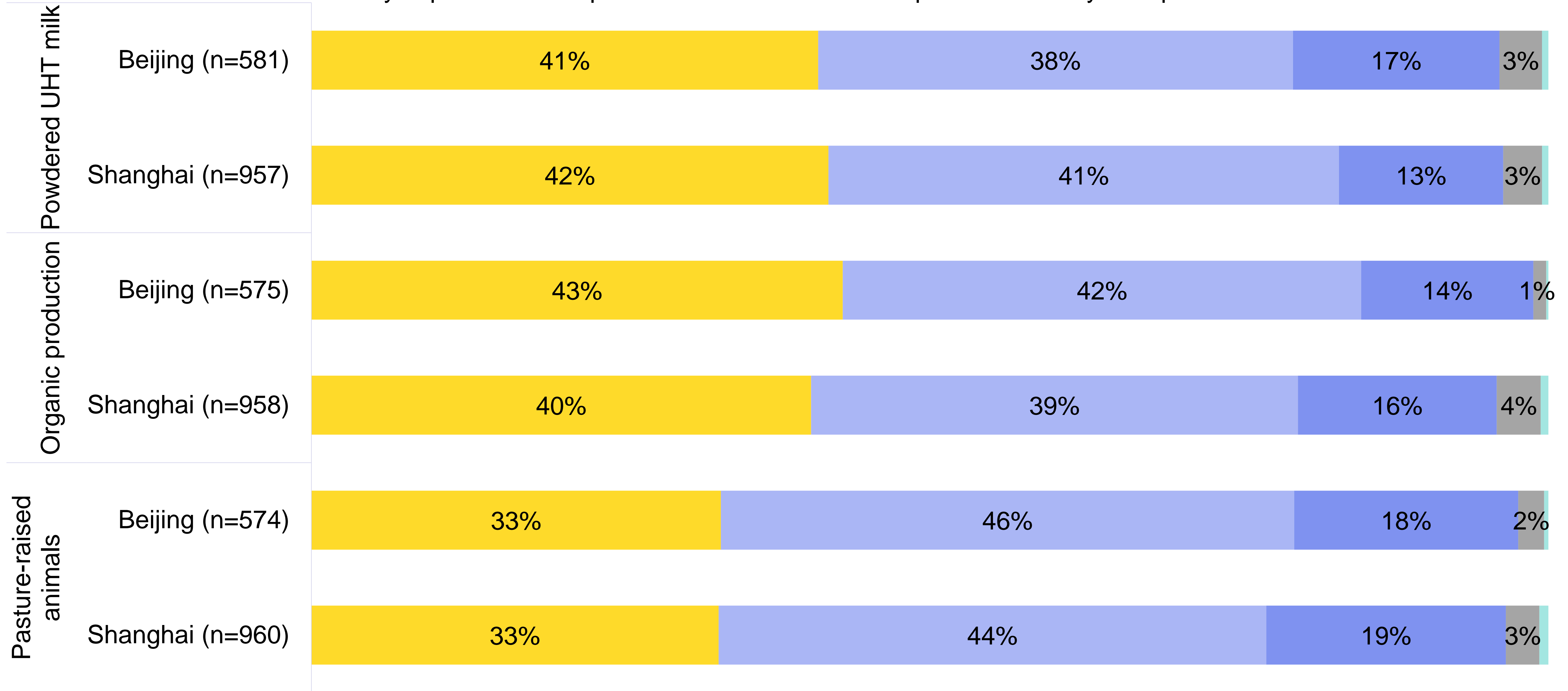


How important did you think the following factors are for higher quality UHT milk?

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	Liquid UHT milk	1	Food safety
2	Food safety	2	Powdered UHT milk
3	Organic production	3	Liquid UHT milk
4	Made with milk from environmentally sustainable farms	4	Made with milk from environmentally sustainable farms
5	Better animal health and welfare	5	Company reputation
6	Company reputation	6	Organic production
7	Grass-fed animals	7	Better animal health and welfare
8	Expertise of farmers	8	Grass-fed animals
9	Pasture-raised animals	9	Transport processes
10	Powdered UHT milk	10	Expertise of farmers
11	Taste	11	Taste
12	Transport processes	12	Pasture-raised animals
13	Grain-fed animals	13	Country of origin
14	Country of origin	14	Grain-fed animals
15	Barn-housed animals	15	Barn-housed animals

How important did you think the following factors are for higher quality UHT milk?

■ Very important
 ■ Important
 ■ Neutral
 ■ Unimportant
 ■ Very unimportant

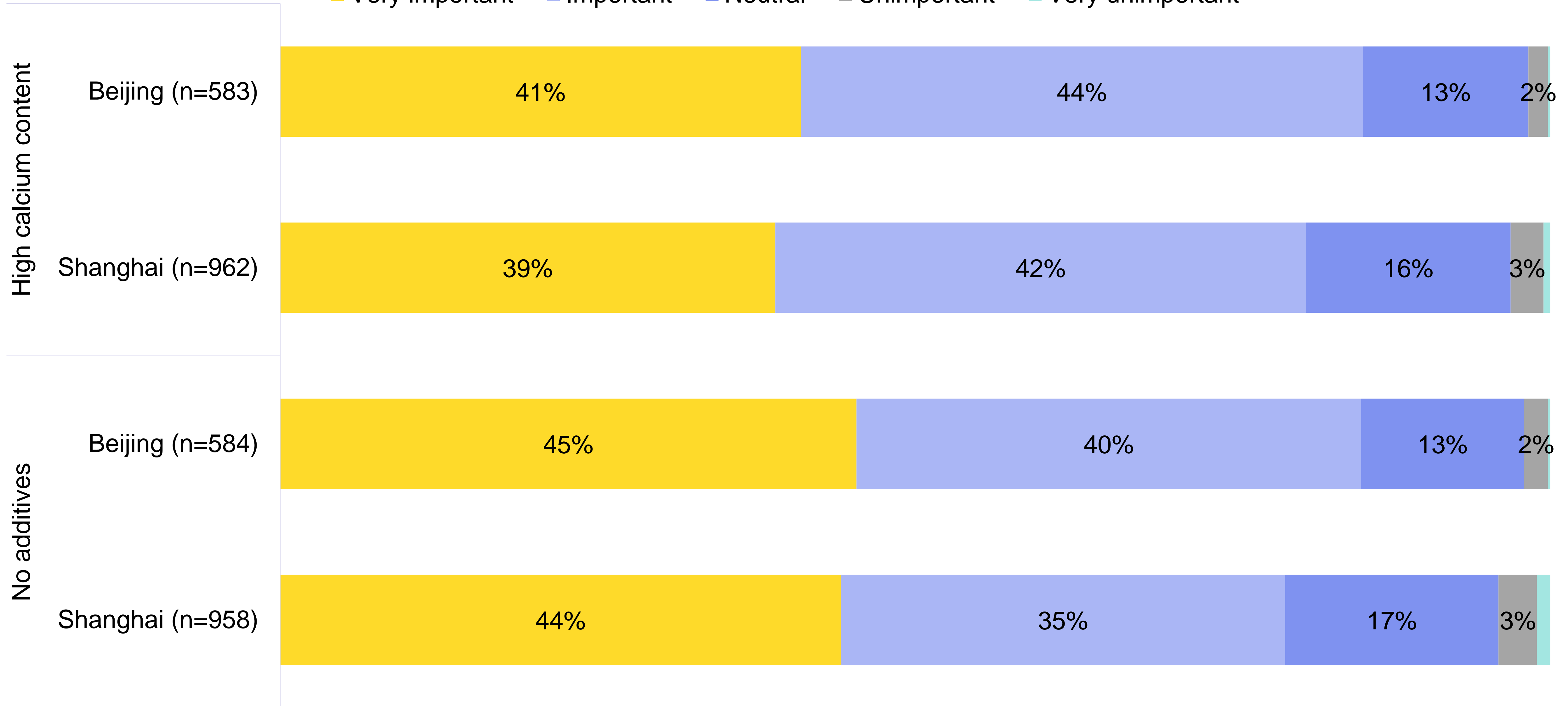


How important did you think the following factors are for high nutritional value of UHT milk?

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	Food safety and quality	1	Food safety and quality
2	Fresh milk	2	No artificial colours
3	High calcium content	3	Fresh milk
4	No additives	4	High protein content
5	No artificial colours	5	Preservative free
6	High protein content	6	Organic milk
7	Made with milk from environmentally sustainable farms	7	High calcium content
8	Preservative free	8	Made with milk from environmentally sustainable farms
9	Organic milk	9	GE free
10	GE free	10	No additives
11	Transport processes	11	Transport processes
12	Pasture-raised animals	12	Pasture-raised animals
13	Grass-fed animals	13	Grass-fed animals
14	Added probiotics	14	Added probiotics
15	Raw milk	15	Raw milk
16	Low fat	16	Fermented
17	No sugar	17	No sugar
18	Fermented	18	Low fat
19	Full fat	19	Full fat

How important did you think the following factors are for higher quality UHT milk?

■ Very important
 ■ Important
 ■ Neutral
 ■ Unimportant
 ■ Very unimportant



Technology Use

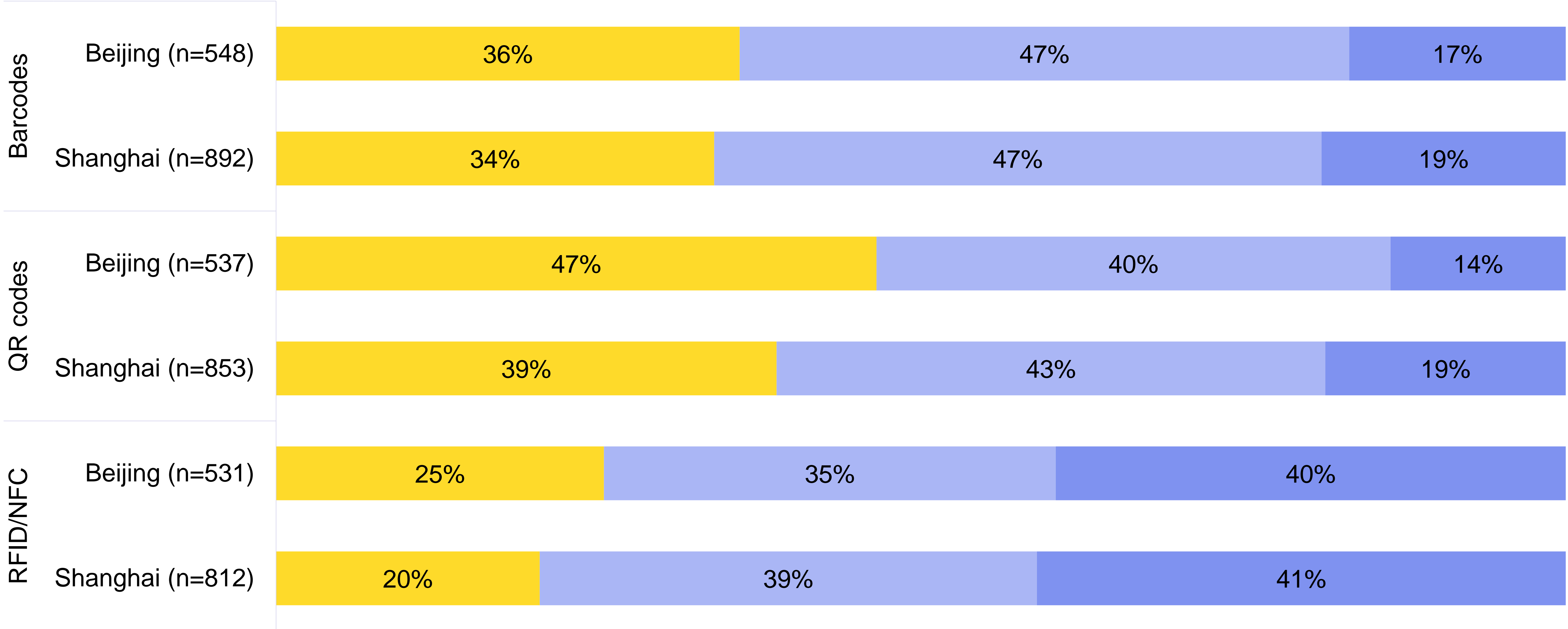
Have you ever used any of the following technologies in conjunction with your **smartphone** to **search for milk related information** and/or **make milk purchases**?

Do you use any of the following to **search for which milk to purchase** or to **find out how a milk is produced**?

Do you **currently**, or would be **interested in**, using **mobile apps** in relation to milk products for the following reasons?

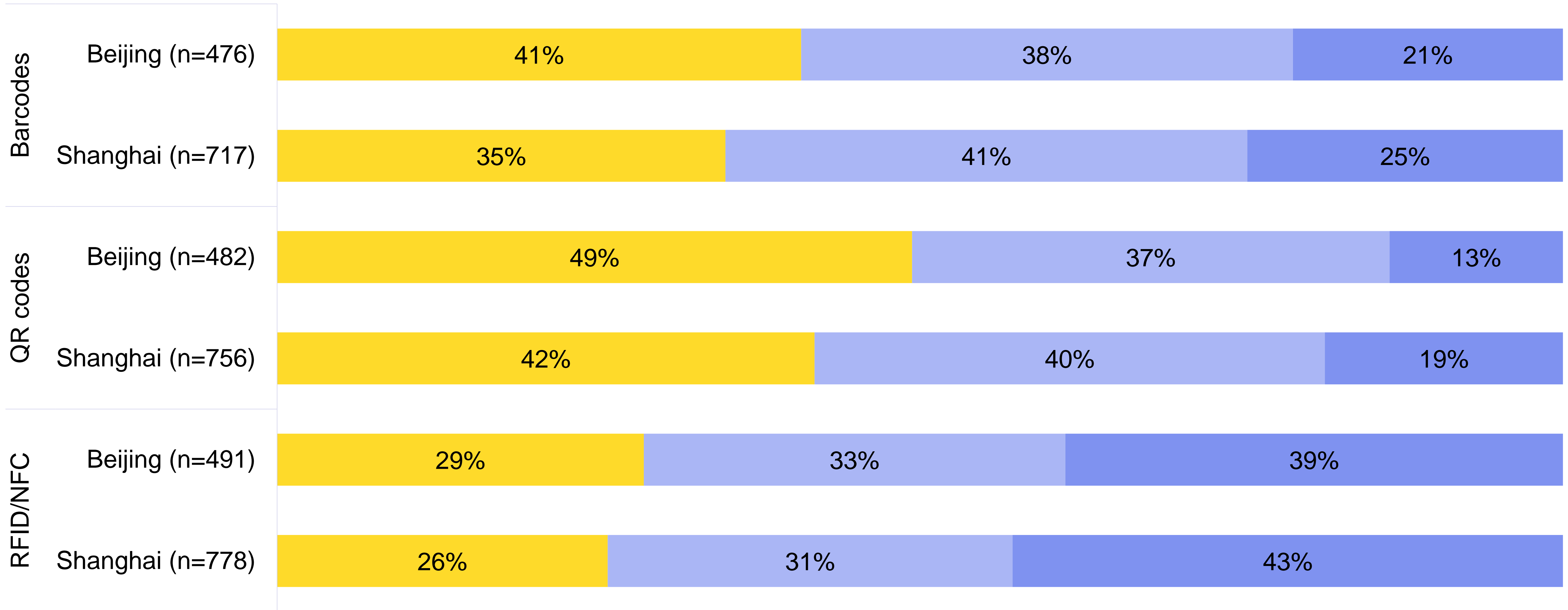
Have you ever used any of the following technologies in conjunction with your smartphone to: search for milk related information?

Often Sometimes Never



Have you ever used any of the following technologies in conjunction with your smartphone to: make milk purchases?

Often Sometimes Never

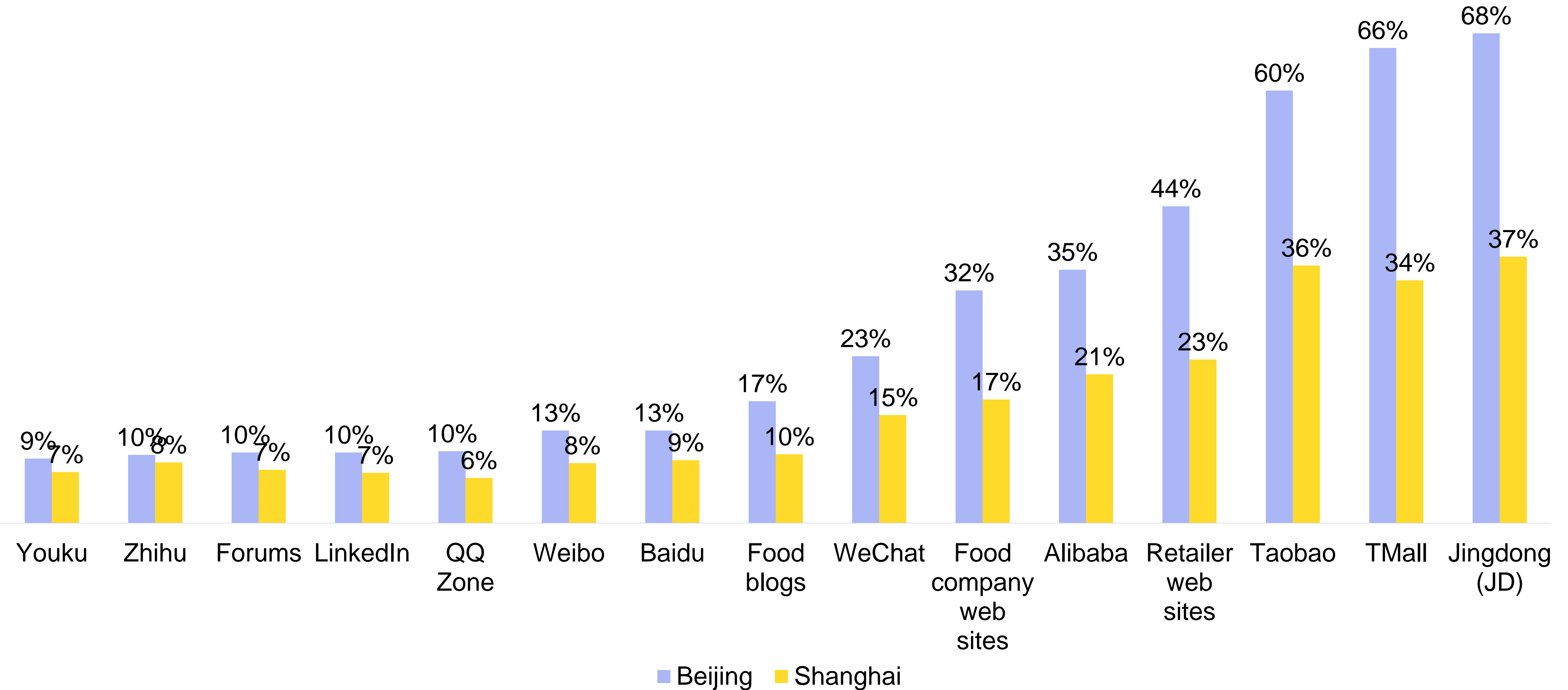


Do you use any of the following to search for which milk product to purchase?

Count (n)

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	Jingdong (JD)	1	Jingdong (JD)
2	TMall	2	Taobao
3	Taobao	3	TMall
4	Retailer websites	4	Retailer websites
5	Alibaba	5	Alibaba
6	Food company websites	6	Food company websites
7	WeChat	7	WeChat
8	Food blogs	8	Food blogs
9	Weibo	9	Baidu
10	Baidu	10	Zhihu
11	QQ Zone	11	Weibo
12	Forums	12	Forums
13	LinkedIn	13	Youku
14	Zhihu	14	LinkedIn
15	Youku	15	QQ Zone

Do you use any of the following to search for which milk product to purchase?

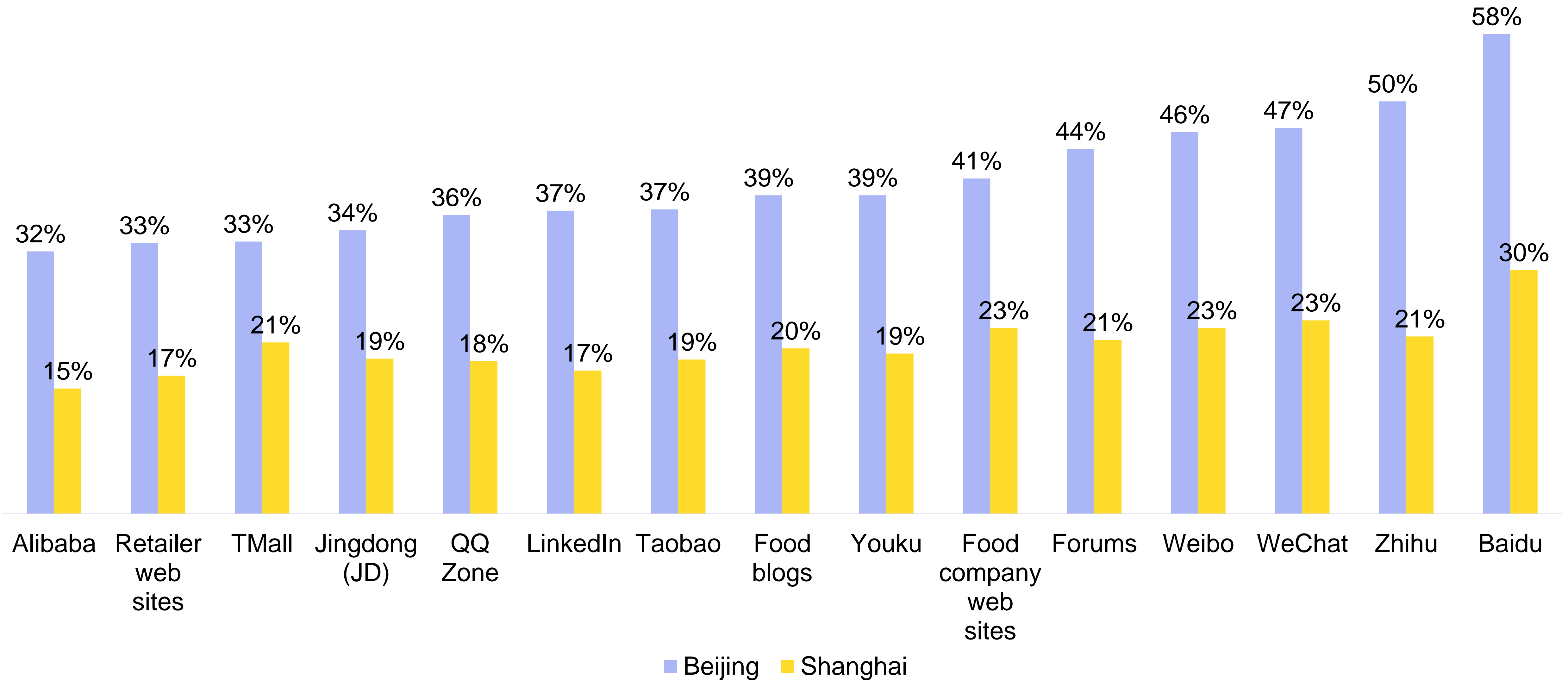


Do you use any of the following to find out how a milk product is produced?

Count (n)

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	Baidu	1	Baidu
2	Zhihu	2	WeChat
3	WeChat	3	Weibo
4	Weibo	4	Food company websites
5	Forums	5	Zhihu
6	Food company websites	6	Forums
7	Food blogs	7	TMall
8	Youku	8	Food blogs
9	Taobao	9	Youku
10	LinkedIn	10	Jingdong (JD)
11	QQ Zone	11	Taobao
12	Jingdong (JD)	12	QQ Zone
13	TMall	13	LinkedIn
14	Retailer websites	14	Retailer websites
15	Alibaba	15	Alibaba

Do you use any of the following to find out how a milk product is produced?



Do you currently, or would be interested in, using mobile apps in relation to milk products for the following reasons?

Currently use

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	Purchasing	1	Purchasing
2	Health (general)	2	Health (general)
3	Product reviews	3	Dietary information
4	Discounts/coupons	4	Product reviews
5	Dietary information	5	Discounts/coupons
6	Traceability	6	Environmental information
7	Environmental information	7	Traceability
8	Nearest stockist location	8	Product delivery
9	Loyalty/Rewards programme	9	Nearest stockist location
10	Budgeting	10	Budgeting
11	Product delivery	11	Loyalty/Rewards programme

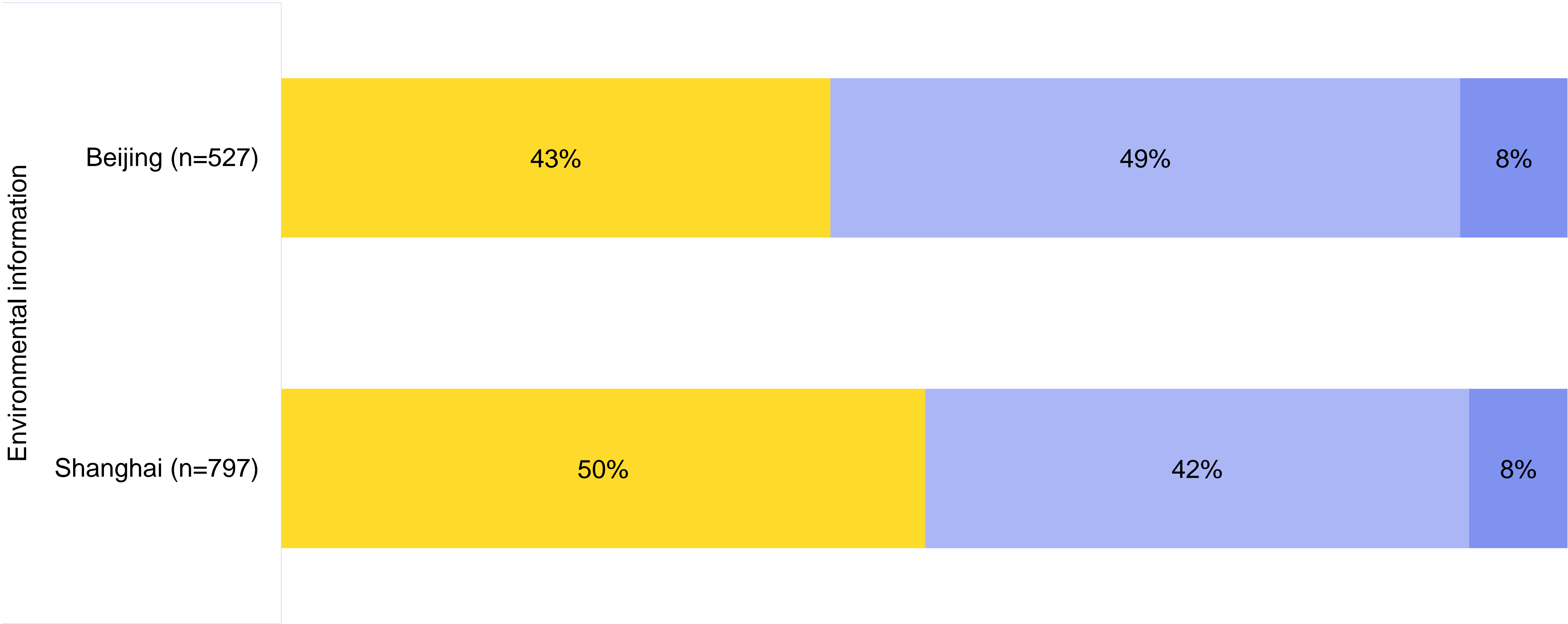
Do you currently, or would be interested in, using mobile apps in relation to milk products for the following reasons?

Interested in using

Beijing		Shanghai	
Rank	Attribute	Rank	Attribute
1	Product delivery	1	Loyalty/rewards programmes
2	Environmental information	2	Product delivery
3	Loyalty/Rewards programme	3	Traceability
4	Traceability	4	Budgeting
5	Budgeting	5	Nearest stockist location
6	Nearest stockist location	6	Environmental information
7	Dietary information	7	Discounts/coupons
8	Discounts/coupons	8	Dietary information
9	Product reviews	9	Product reviews
10	Health (general)	10	Health (general)
11	Purchasing	11	Purchasing

Do you currently, or would be interested in, using mobile apps in relation to milk products for the following reasons?

■ Currently use ■ Interested in using ■ Don't use and not interested



Summary

- **Very similar results between two cities** – only subtle differences, by varying degrees
- Participants in **both cities had high purchase rate** for NZ UHT milk products, rating NZ as the second-highest producer of quality UHT milk products (second to China – domestic bias)
- **Different rankings of attributes** (e.g. factors of food safety), but very little difference in **actual preference** between the two cities
- Similar use of technology in relation to UHT milk products, with subtle differences

Summary

- *Beijing* – higher rankings for *long shelf life, traceability, organic production, pasture-raised animals, high calcium content, and no additives*
- *Shanghai* – higher rankings for *expiry date information, exporting countries government certification, country of origin, and powdered UHT milk*

Summary

- *Beijing* participants showed generally **greater and more diverse use of technology** in relation to milk products relative to *Shanghai*
- *Beijing* participants had higher interest in using mobile apps for *environmental information*, while *Shanghai* participants had higher current use

Implications

- **Observed differences are minimal** – consumer preferences within and between cities may not greatly affect market positioning in China
- **Subtle distinctions** may be useful to dairy product marketers and exporters who are already seeking to differentiate offerings by city/region (e.g. Beijing participants' interest in using apps for *environmental information*)

Limitations/Future Direction

- **Limitations**

- Different sample sizes (Beijing = 588; Shanghai = 968)
 - potentially skewed results

- **Future Direction**

- Latent class analysis – tease out and compare consumer segments, *whole sample* and *Beijing/Shanghai*

More survey results can be seen
in our Online Tool.

<https://www.aeru.co.nz/data>



Thank you!

Tim Driver

Research Officer

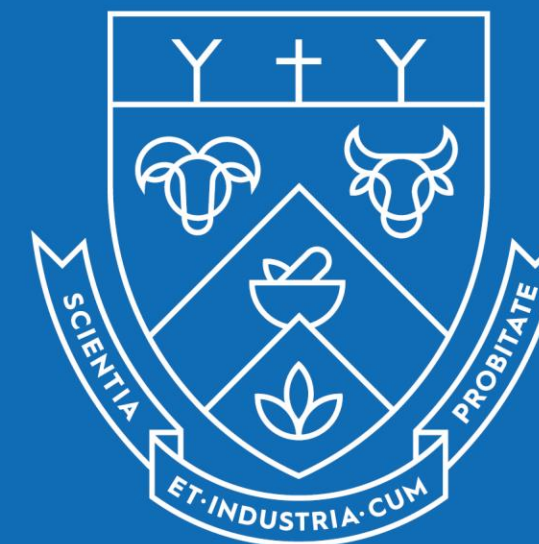
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