Supplementary Material for:
(When) Is a Summary Really Worth a Thousand Words? – How Textual and Visual Customer Review Summaries Affect Cognitive Load During Online Purchase Decisions

Appendix A   Online Shopping Site

Note: For all experimental groups, the position of the smartphones and the position of the customer reviews are randomized to avoid any potential order biases.

No Summary Group

Lumina Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

Buy Lumina

Customer reviews

★★★★½ 4.2 out of 5
20 global ratings

All customer reviews

★★★★☆
User   Great phone, worthless finger print reader.

★★★★☆
User   Of course I loved the camera quality, as expected. Battery life is also great. Overall, I like this phone.

★★★★★
User   I'm very impressed with this, so far it's great. I bought it for my daughter so I know she will love it

★★★★★
User   So far so good

★★★★★
User   Good phone to use as a back up or primary phone

Miosa Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

Buy Miosa

Customer reviews

★★★★½ 4.2 out of 5
20 global ratings

All customer reviews

★★★★★
User   My husband just got this phone. He's switching from his old flip phone and so far he likes it. It's black and arrived fast.

★★★☆☆
User   Came on time but the packaging had a few scuffs from delivery. So far I'm very happy with the phone. Its exactly what I wanted

★★★★★
User   Just what I was looking for

★★★★★
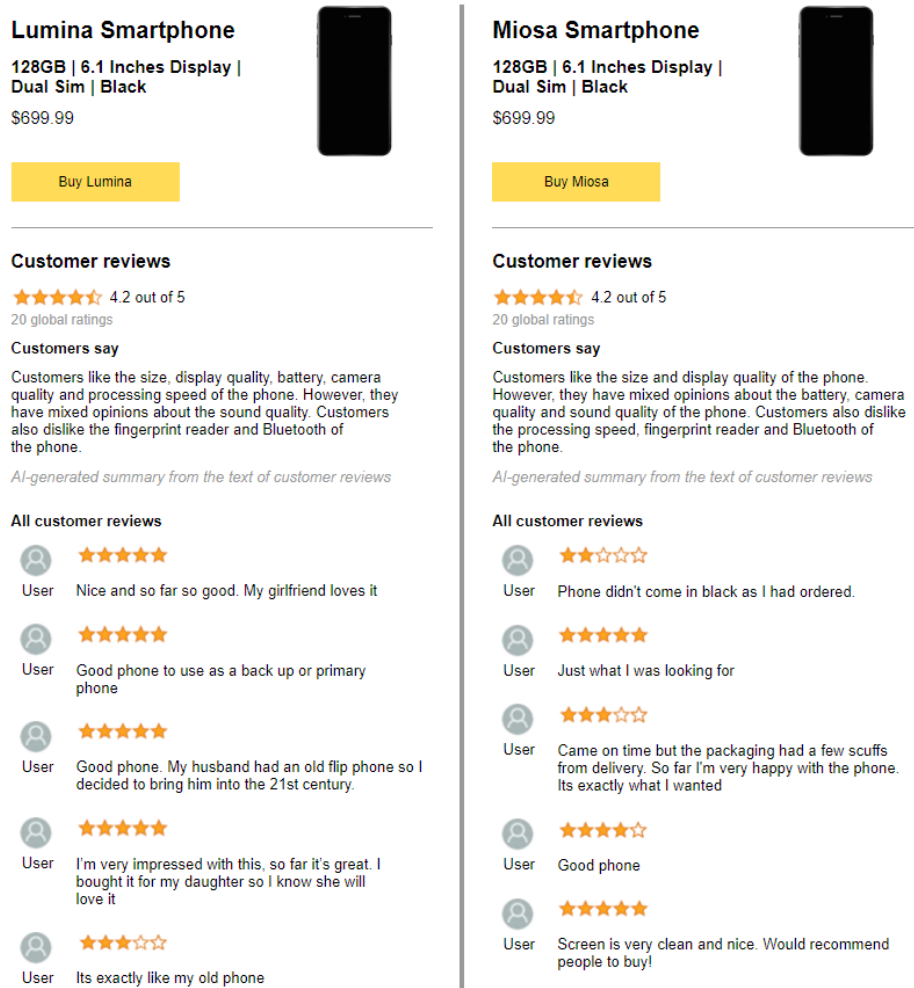User   Was a present to my daughter. This is a such a great cellphone!

★★★★★
User   very nice

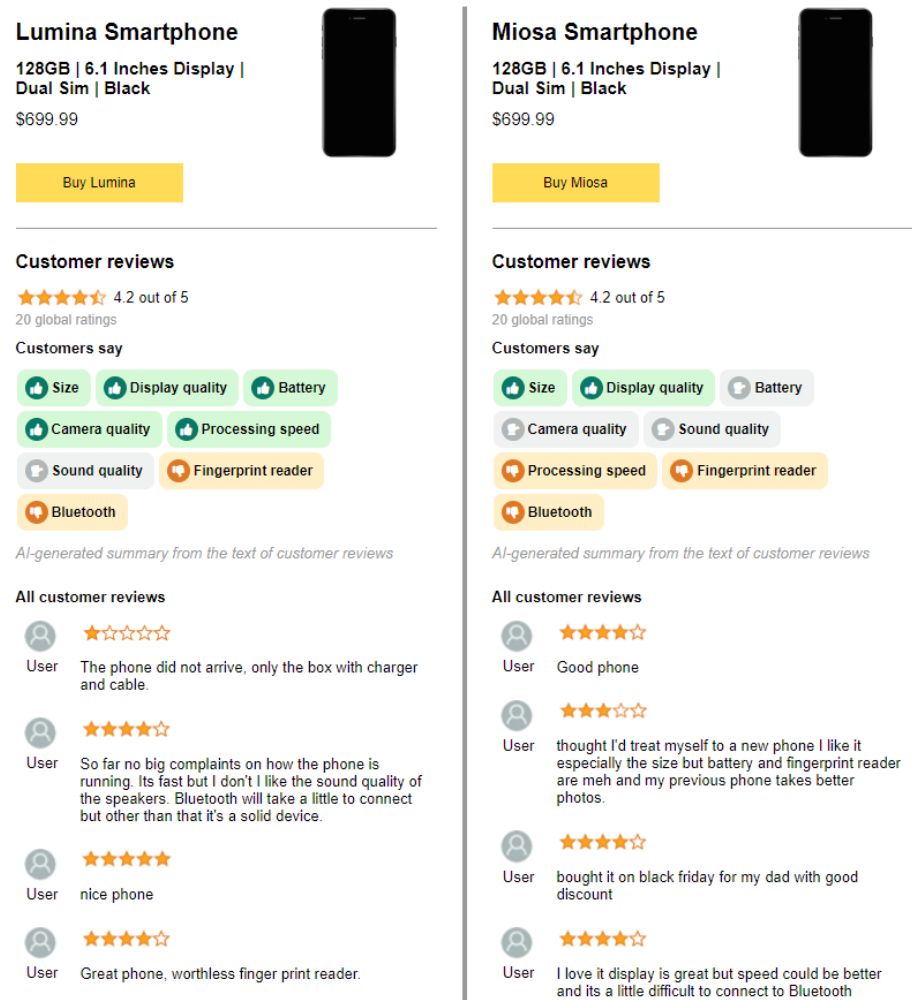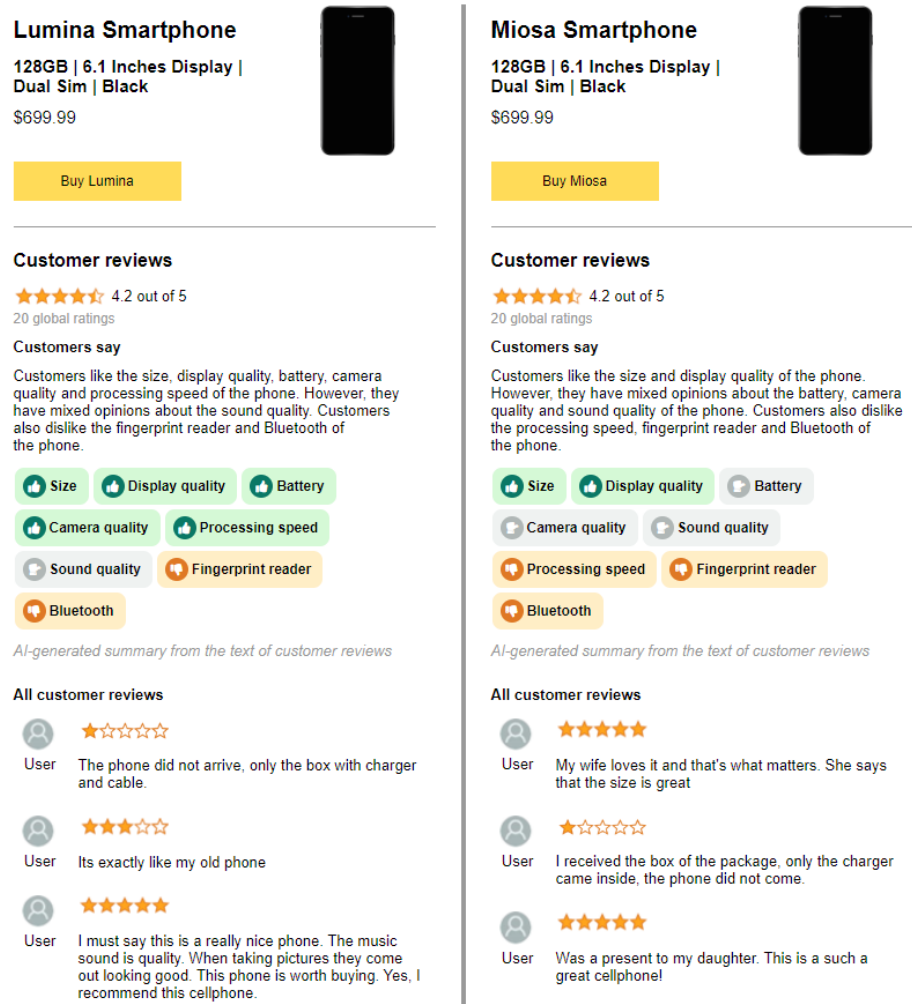**Figure 1.** No Summary Group

Textual Summary Group

Lumina Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

Buy Lumina

Customer reviews

★★★★☆ 4.2 out of 5
20 global ratings

Customers say

Customers like the size, display quality, battery, camera quality and processing speed of the phone. However, they have mixed opinions about the sound quality. Customers also dislike the fingerprint reader and Bluetooth of the phone.

AI-generated summary from the text of customer reviews

All customer reviews

User ★★★★★
Nice and so far so good. My girlfriend loves it

User ★★★★★
Good phone to use as a back up or primary phone

User ★★★★★
Good phone. My husband had an old flip phone so I decided to bring him into the 21st century.

User ★★★★★
I'm very impressed with this, so far it's great. I bought it for my daughter so I know she will love it

User ★★★☆☆
Its exactly like my old phone

Miosa Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

Buy Miosa

Customer reviews

★★★★☆ 4.2 out of 5
20 global ratings

Customers say

Customers like the size and display quality of the phone. However, they have mixed opinions about the battery, camera quality and sound quality of the phone. Customers also dislike the processing speed, fingerprint reader and Bluetooth of the phone.

AI-generated summary from the text of customer reviews

All customer reviews

User ★★☆☆☆
Phone didn't come in black as I had ordered.

User ★★★★★
Just what I was looking for

User ★★★☆☆
Came on time but the packaging had a few scuffs from delivery. So far I'm very happy with the phone. Its exactly what I wanted

User ★★★★☆
Good phone

User ★★★★★
Screen is very clean and nice. Would recommend people to buy!

Figure 2. Textual Summary Group

Visual Summary Group

Lumina Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

> Buy Lumina

Customer reviews

★★★★½ 4.2 out of 5
20 global ratings

Customers say

[👍 Size] [👍 Display quality] [👍 Battery]
[👍 Camera quality] [👍 Processing speed]
[😐 Sound quality] [👎 Fingerprint reader]
[👎 Bluetooth]

AI-generated summary from the text of customer reviews

All customer reviews

👤 User ★☆☆☆☆
The phone did not arrive, only the box with charger and cable.

👤 User ★★★★☆
So far no big complaints on how the phone is running. Its fast but I don't I like the sound quality of the speakers. Bluetooth will take a little to connect but other than that it's a solid device.

👤 User ★★★★★
nice phone

👤 User ★★★★☆
Great phone, worthless finger print reader.

Miosa Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

> Buy Miosa

Customer reviews

★★★★½ 4.2 out of 5
20 global ratings

Customers say

[👍 Size] [👍 Display quality] [😐 Battery]
[😐 Camera quality] [😐 Sound quality]
[👎 Processing speed] [👎 Fingerprint reader]
[👎 Bluetooth]

AI-generated summary from the text of customer reviews

All customer reviews

👤 User ★★★★☆
Good phone

👤 User ★★★☆☆
thought I'd treat myself to a new phone I like it especially the size but battery and fingerprint reader are meh and my previous phone takes better photos.

👤 User ★★★★☆
bought it on black friday for my dad with good discount

👤 User ★★★★☆
I love it display is great but speed could be better and its a little difficult to connect to Bluetooth

Figure 3. Visual Summary Group

Textual x Visual Summary Group

Lumina Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

Buy Lumina

Customer reviews

★★★★☆ 4.2 out of 5
20 global ratings

Customers say

Customers like the size, display quality, battery, camera quality and processing speed of the phone. However, they have mixed opinions about the sound quality. Customers also dislike the fingerprint reader and Bluetooth of the phone.

👍 Size | 👍 Display quality | 👍 Battery
👍 Camera quality | 👍 Processing speed
🤔 Sound quality | 👎 Fingerprint reader
👎 Bluetooth

AI-generated summary from the text of customer reviews

All customer reviews

User ★☆☆☆☆
The phone did not arrive, only the box with charger and cable.

User ★★★☆☆
Its exactly like my old phone

User ★★★★★
I must say this is a really nice phone. The music sound is quality. When taking pictures they come out looking good. This phone is worth buying. Yes, I recommend this cellphone.

Miosa Smartphone

128GB | 6.1 Inches Display | Dual Sim | Black

$699.99

Buy Miosa

Customer reviews

★★★★☆ 4.2 out of 5
20 global ratings

Customers say

Customers like the size and display quality of the phone. However, they have mixed opinions about the battery, camera quality and sound quality of the phone. Customers also dislike the processing speed, fingerprint reader and Bluetooth of the phone.

👍 Size | 👍 Display quality | 🤔 Battery
🤔 Camera quality | 🤔 Sound quality
👎 Processing speed | 👎 Fingerprint reader
👎 Bluetooth

AI-generated summary from the text of customer reviews

All customer reviews

User ★★★★★
My wife loves it and that's what matters. She says that the size is great

User ★☆☆☆☆
I received the box of the package, only the charger came inside, the phone did not come.

User ★★★★★
Was a present to my daughter. This is a such a great cellphone!

Figure 4. Textual x Visual Summary Group

Appendix B   Overview of Items Used in the Experiment

Dependent Variable

<div align="center">Table 1. Items for Cognitive Load</div>

Cognitive Load	
It was exhausting to find the important information to decide on a smartphone.	
The way the provided information was presented on the online shopping site was very impractical for learning about the quality of the smartphones.	Adapted from Klepsch et al. (2017)
It was difficult to recognize and link the crucial information to decide on a smartphone.	

All items are based on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree).

Control Variables

<div align="center">Table 2. Sociodemographic Questions</div>

Sociodemographic Questions
Age
Gender
Education
Income

Table 3. Items for Familiarity with Online Shopping, Customer Reviews, and Smartphones

Familiarity with Online Shopping, Customer Reviews, and Smartphones
Familiarity with Online Shopping How often do you shop online?
Familiarity with Customer Reviews How often do you read online customer reviews before buying a product online?
Familiarity with Smartphones What is your experience with smartphones?

Table 4. Items for Attitude Toward AI

Attitude Toward AI	
I feel positive toward AI technologies.	
I feel that using AI technologies is pleasant.	Adapted from Choung et al. (2023)
Using AI technologies is a good idea.	
Using AI technologies is a smart way to get things done.	

All items are based on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree).

Table 5. Items for Decision-Making Styles

Decision-Making Style	
When I am in the car listening to the radio, I often check other stations to see if something better is playing, even if I'm relatively satisfied with what I'm listening to.	
I often find it difficult to shop for a gift for a friend.	Adapted from Schwartz et al. (2002)
Choosing a movie from streaming services is really difficult. I'm always struggling to pick the best one.	

All items are based on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree).

Table 6. Items for Information Processing Styles

Information Processing Styles	
Textual information processing style I enjoy tasks that require the use of words.	
I do a lot of reading.	
I like to learn from words.	
	Adapted from Childers et al. (1985)
Visual information processing style My thinking often consists of mental "pictures" or images.	
I generally prefer to use a diagram rather than a written set of instructions.	
When I forget something, I often try to make a mental "picture" to remember it.	

All items are based on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree).

Appendix C   Reading Span Task

Note: To measure participants' actual working memory capacity, we implemented a reading span task following the algorithm of Oberauer et al. (2000): In the experiment, we first provided participants with instructions for the reading span task (see Figure 5). We implemented a sample round with two sentences (see Figure 6 for an example) and a recall phase with brief instructions (see Figure 7) to ensure that participants understood the procedure. After the sample round and for the actual reading span task, we showed participants five rounds of three sentences each (see Figure 8 for an example), followed by a recall phase after each round (see Figure 9).

To construct the sentences, we followed the suggestions of Oberauer et al. (2000) and ensured that each sentence was between four and seven words, syntactically simple, clearly identifiable as "true" or "false", and ended with a familiar noun.

Final task of the experiment:

In the following you will be shown different sentences for 4 seconds each. **Within these 4 seconds**, please **decide whether the sentence is true or false** by clicking on the corresponding button. Also **remember the last word of each sentence**.

The procedure consists of five rounds. In each round, you must evaluate the sentences and then reproduce the last word of each sentence. Upon completion of the final round, you will receive your completion code.

To illustrate this task, a **sample round** is provided on the next page. Once you understand the instructions, click the "Start sample round" button. Please note that the first sentence will appear immediately after you click the button.

Start sample round

Figure 5. Instructions for the Reading Span Task

Sample Round

The sun likes to play soccer.

True   False

Figure 6. Example Sentence for the Sample Round

Please enter the last word of each given sentence. Once you have entered all the words you can remember, click the "Start the test" button. Please note that the test will begin immediately after you click the button.

Please enter the last word of the first sentence.

Please enter the last word of the second sentence.

Start the test

Figure 7. Recall Phase for the Sample Round with Instructions

Round 2 out of 5

Elephants are excellent at playing chess.

True   False

Figure 8. Example Sentence for the Reading Span Task

Please enter the last word of the first sentence.

Please enter the last word of the second sentence.

Please enter the last word of the third sentence.

Next round

Figure 9. Recall Phase for the Reading Span Task

References

Childers, T. L., Houston, M. J. & Heckler, S. E. (1985), 'Measurement of Individual Differences in Visual Versus Verbal Information Processing', *Journal of Consumer Research* **12**(2), 125–134.

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