



**Measuring the Consumer Value of  
Active and Intelligent Packaging:  
case sushi**

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# measurement of consumer value

# packaging value for the consumer

Is based on subjective assessment,  
packaging value should always be determined by the consumer, not the brand owner or designer or researcher.

Implies an interaction between the consumer and the packaging,  
testing should always be conducted with concrete prototypes.

Is comparative,  
control samples (1-2) should be included in the research design, if available.

Is context specific,  
the use situation has to be carefully defined for the participants.

Includes a preference judgement,  
the value is usually related to preference and willingness-to-pay

# Value Toolkit®

Value Toolkit is a research tool for measuring and visualising consumers' value perceptions.



## for better design briefs and packaging

Value Toolkit is a new and unique way to understand packaging's value in relation to target audience.

The results of a Value Toolkit study are organized, comparable and visual.

The results are packed with meaning and can be utilized to recognize advantages & market gaps, form a new design brief or reassure decision makers.

Value Toolkit is a quick way to run a check on your packaging performance.

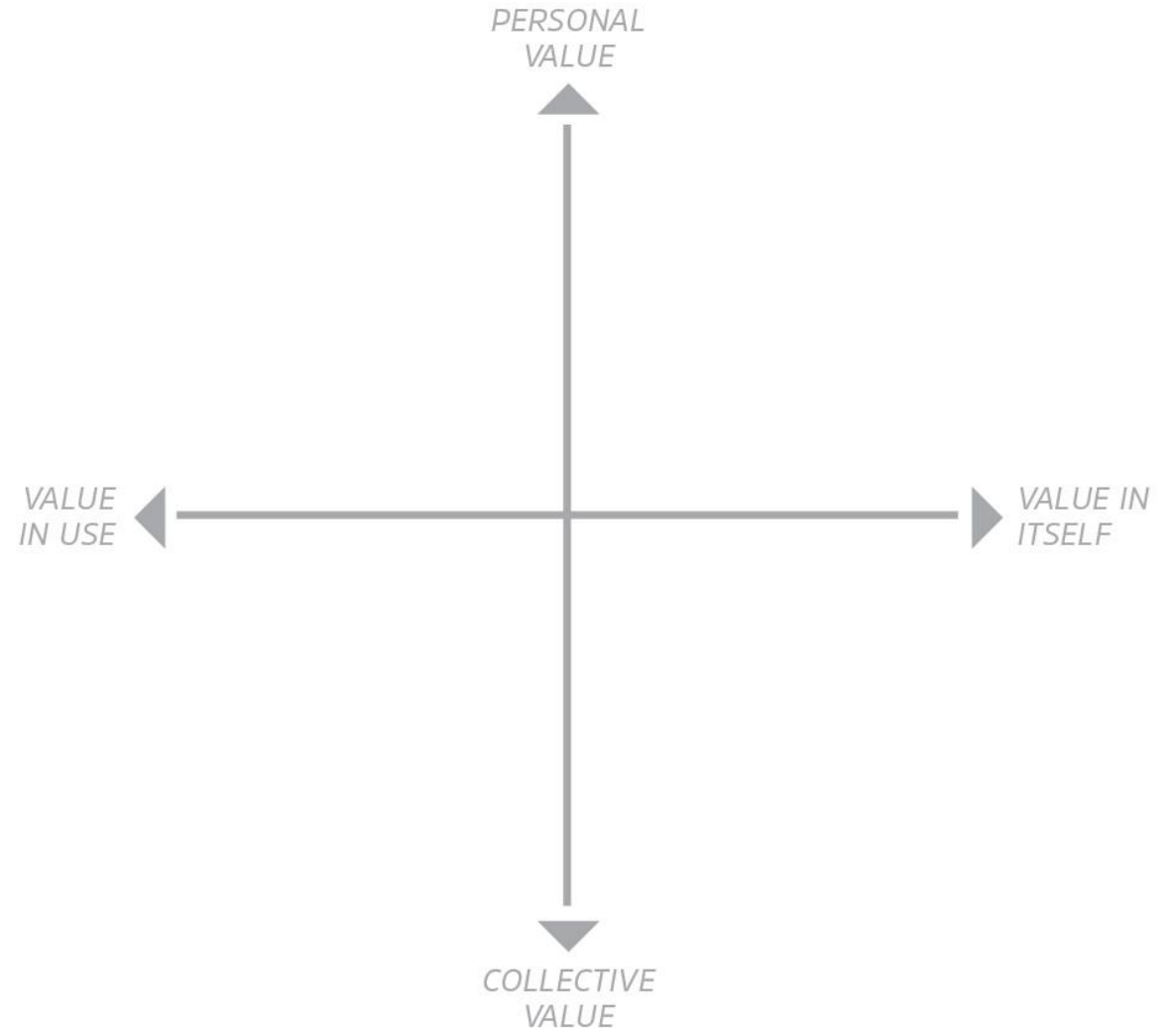
# value toolkit framework

Value is determined by two dimensions.\*

The first dimension ranges from the value of packaging **in use** (extrinsic value) to packaging valued **in itself** (intrinsic value).

The second dimension ranges from **personal** to **collective** value.

\**Holbrook, M. (1999) Consumer Value: A Framework for Analysis and Research. Routledge, New York.*





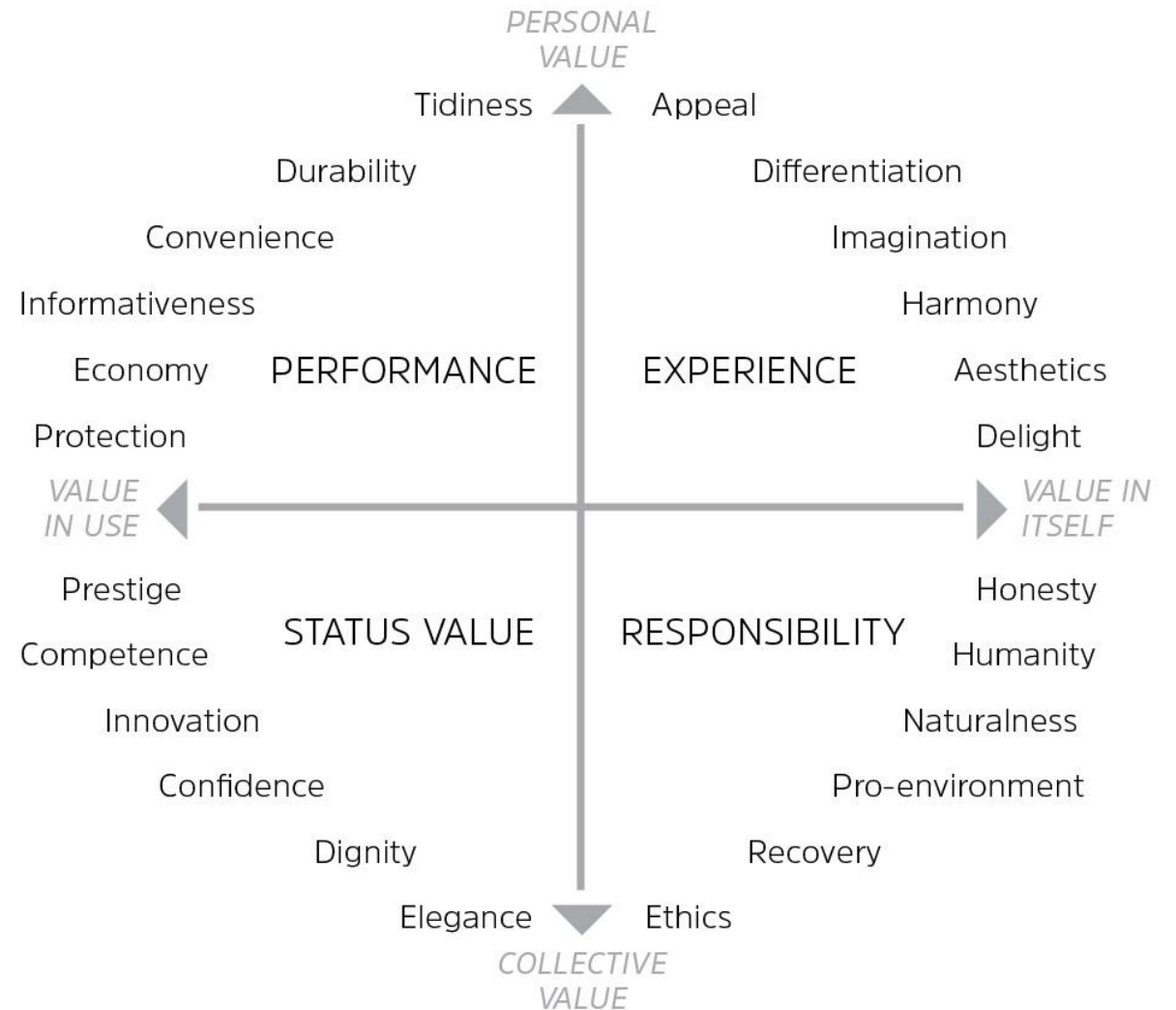
# value toolkit categories

The four main categories in the toolkit are **Performance**, **Experience**, **Responsibility** and **Status value**.

The main categories are divided into subcategories, and altogether the toolkit utilizes 24 different subcategories.

Each subcategory is measured by two attributes with opposites, e.g.

Appeal:  
*Appealing – Unappealing*  
*Tempting – Repulsive*



**case:**  
**sushi packaging**



# studied sushi packaging concepts for 12 pcs/450g

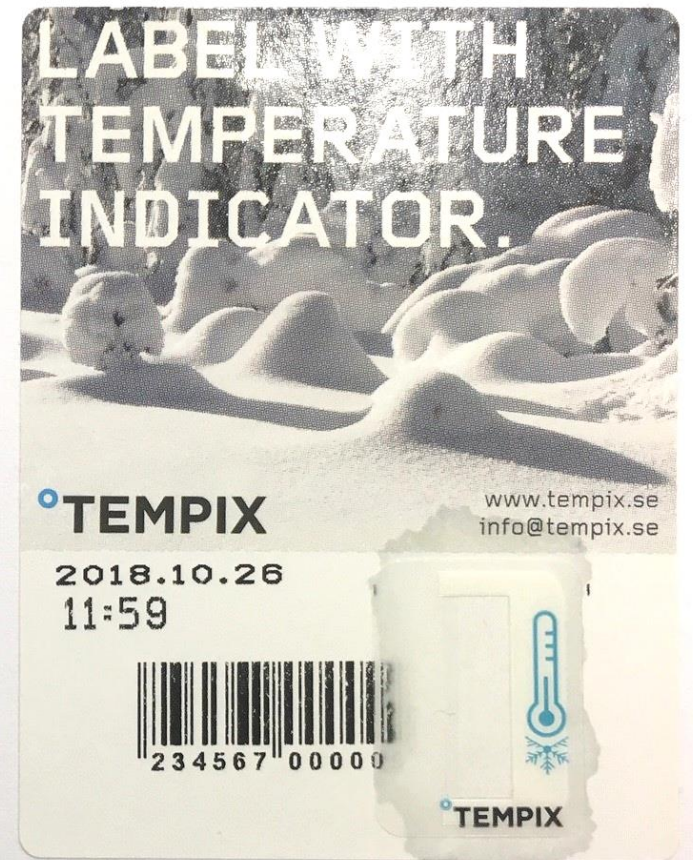
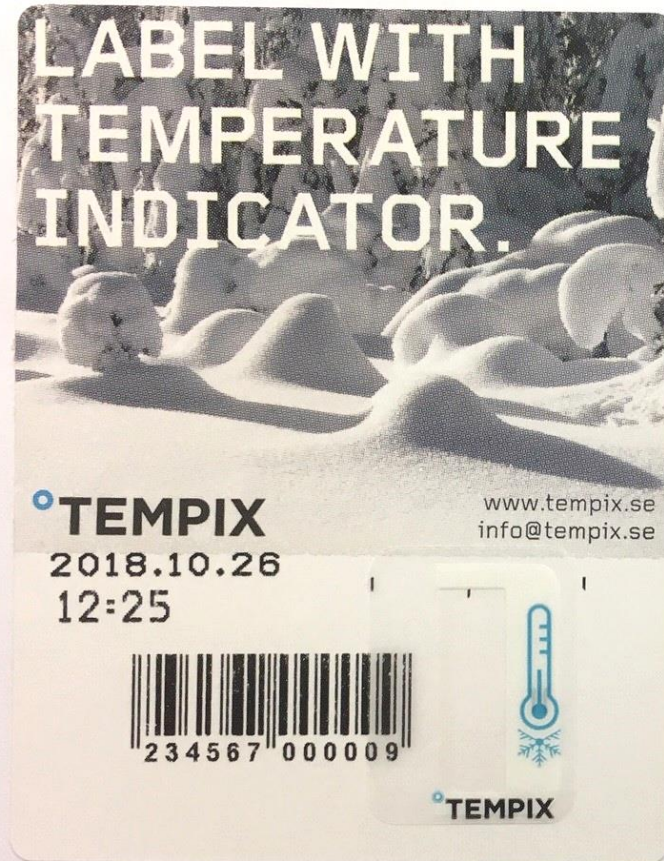


**Metsä Board carton tray with Tempix® indicator**



**Plastic tray with Tempix® indicator**

# Tempix® indicator



## aim

The aim of the study was to measure the value of a TTI (time-temperature indicator) in sushi packaging.

**Data** was collected through two focus group discussions with 12 consumers. Of the participants, 7/12 were female and 5/12 male.

The average age of the participants was 39 years, ranging from 28 to 54 years.

All participants consumed sushi and had purchased take-out sushi during the past six months.

The participants were informed that a typical price for retail packed sushi is 20 euro/kg, i.e. 10 euro/450g.

The interviews were conducted in November 2018 in Finland. Each group discussion lasted about 1 hour and the participants were rewarded with a 30 euro gift card.

# Information on Tempix® provided to the participants

Sushi packages feature Tempix® technology, which monitors the temperature of the product throughout the transportation chain, up to checkout.

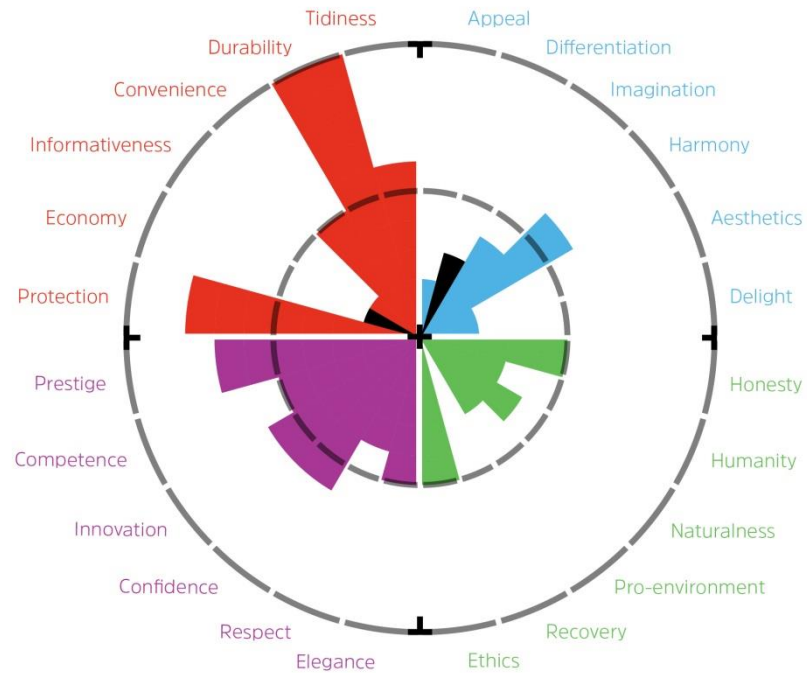
The Tempix sticker contains indicator fluid that reacts to too excessive temperatures. If the cold chain is broken during sales time, the indicator fluid in the label expands and destroys the bar code. In that case, the sale of the product is no longer possible.

# results

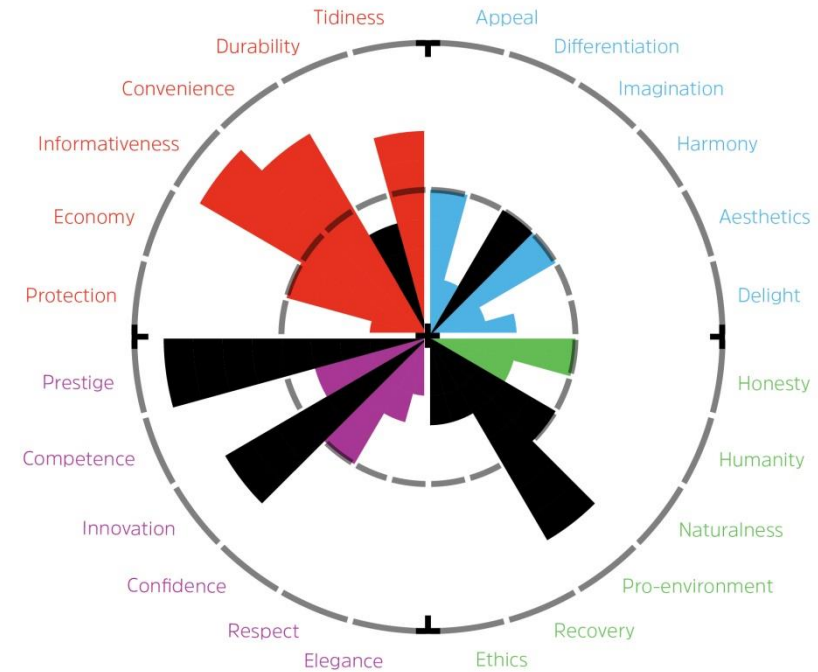


# value profiles for sushi packages without TTI

Metsä Board carton tray without TTI



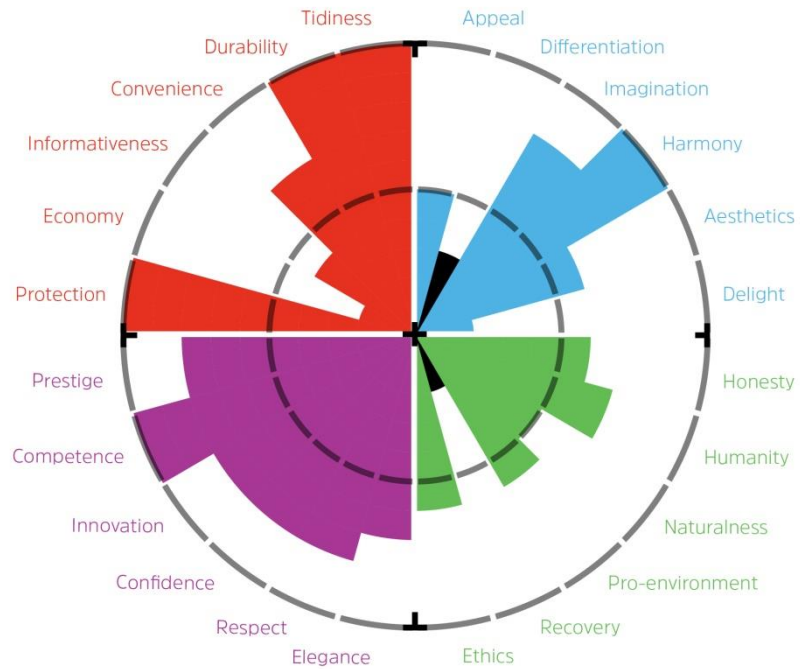
Plastic tray without TTI



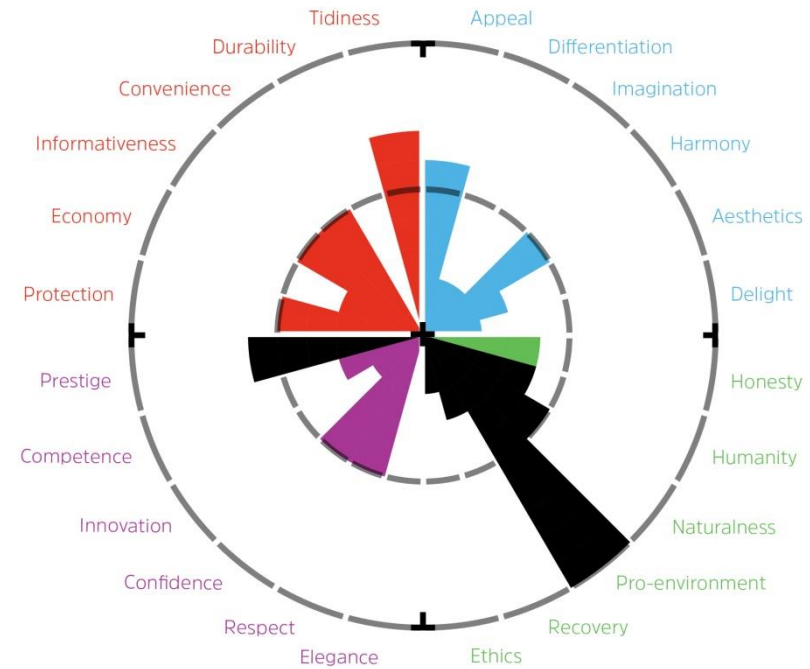
- PERFORMANCE ● EXPERIENCE
- STATUS VALUE ● RESPONSIBILITY
- OPPOSITE

# value profiles for sushi packages with Tempix TTI

Metsä Board carton tray with TTI



Plastic tray with TTI



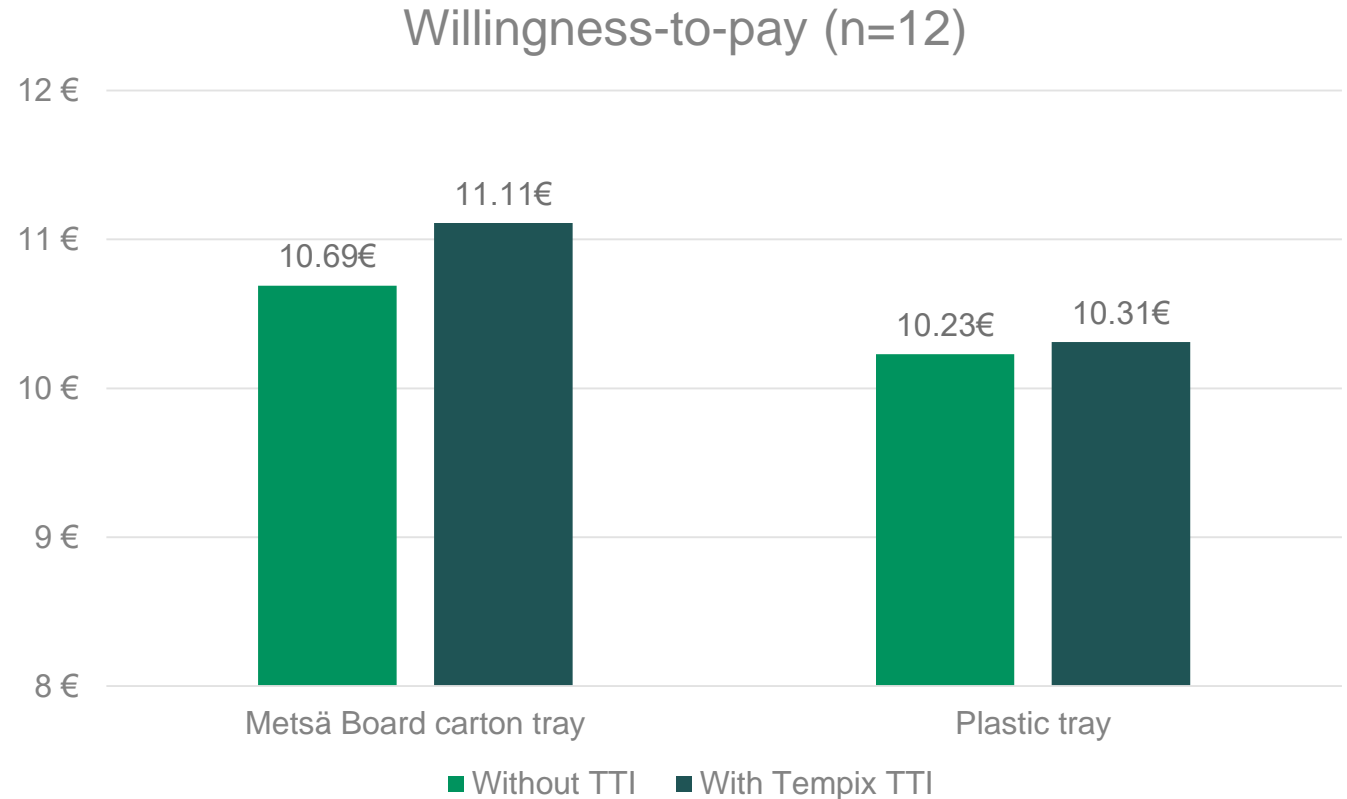


# TTI increased more willingness-to-pay on carton

Without the indicators, the participants offered 10.69 euro for the carton tray and 10.23 euro for the plastic tray.

After presenting the Tempix indicator, the average offer for the carton tray with the TTI was 11.11 euro (+0.42 euro/+4%), while the average offer for the plastic tray increased to 10.31 euro (+0.08 euro/+1%).

Based on the findings, the TTI increased the value of both packages. In carton packaging the increase was higher, as the safety of the plastic tray was still questioned because of the easy-opening lid that might fail during transportation or in the store.



# summary

# TTI increased both the perceived safety and trust in the product

The packages with the TTI were perceived as more safe, hygienic, and delivering higher value in terms of expertise and innovation.

The majority of the participants stated that the Tempix® technology increased both the perceived safety and trust in the sushi product. It was also perceived to decrease product mistreatment.

The TTI created a significant increase in the perceived value of the carton tray. For the plastic tray, the value increase was not as high, as the overall safety of the tray was not perceived very high because of the fragile lid.

# doubts about TTI

Shouldn't retailers be trusted even without the indicator?

How sensitive is it? Can you destroy it on the way home?

Will it create unnecessary food waste?

Is it recyclable?



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