

Can Robots Be Sold?

The Effects of Robot Designs on the Consumers' Acceptance of Robots

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INTRODUCTION

- Personal and service robots are extraordinarily advanced compared to the ones developed a decade ago.
- However, the size of the personal and service robot market has not grown much, betraying the industry experts' predictions that the market would rapidly expand within a decade.

UNEC & IFR's Expected Market Size (2010)	Market Size (2011)
US\$ 17.1 Billion	US\$ 3.6 Billion

- This arouses a research question why today's personal and service robots are **not sold** despite of all the technological advancements and anticipations.

INTRODUCTION

- People tend to **categorize** a new product based on its **appearance** (Bloch, 1995).
- People produce **expectations** regarding the **functions and performance** of the product based on its **category** (Moreau, et al., 2001).
- **The match between the expected and the actual performance** of the product affects the **consumers' satisfaction** of the product (Oliver, 1980).



- **Prediction:** The match between the expected functions, which are drawn from robot appearance and the actual functions of the products leads to the positive feedback from consumers.
- **Objectives:** To investigate the effect of these **robot design approaches** on the **consumers' acceptance of robots**.

RELATED WORKS

Human- versus Product-Oriented Robot

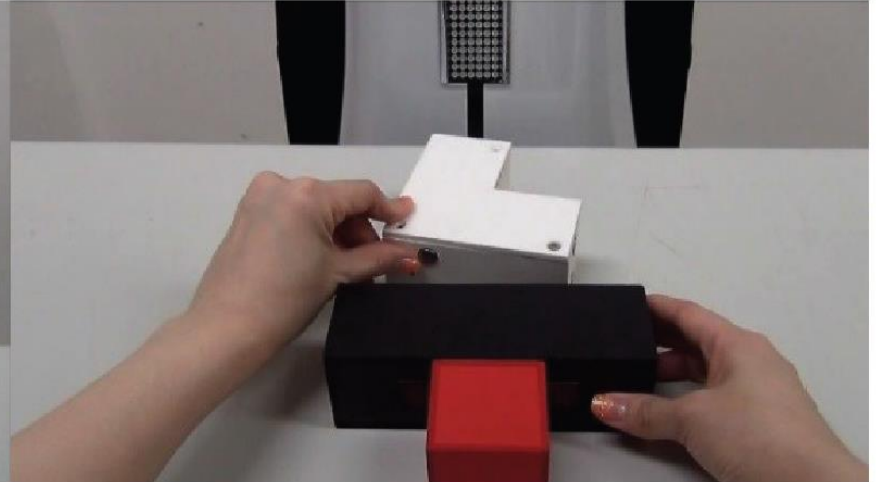
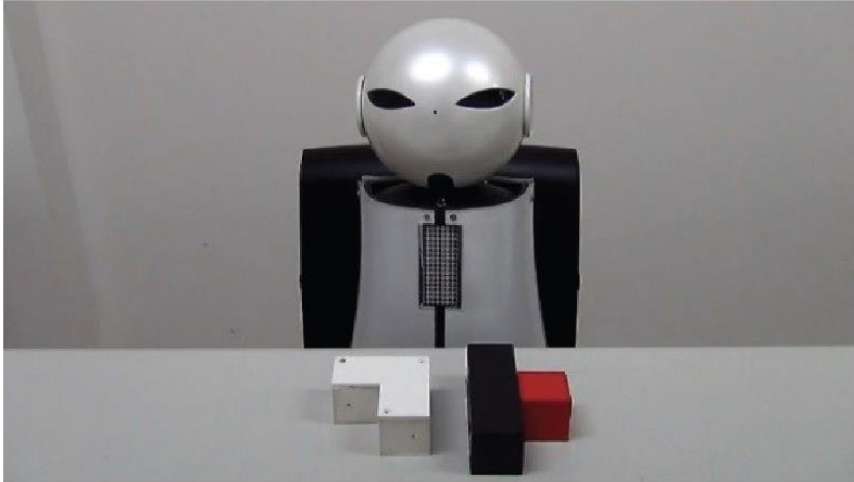


Human-Oriented Robot



Product-Oriented Robot

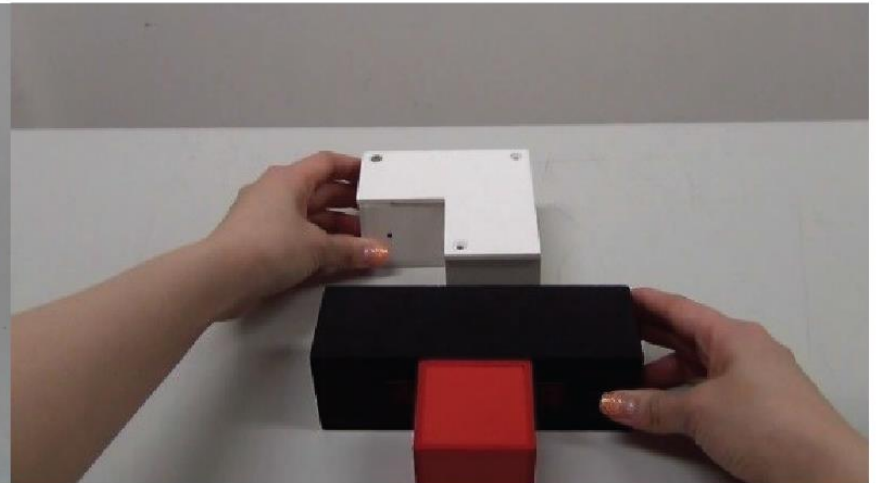
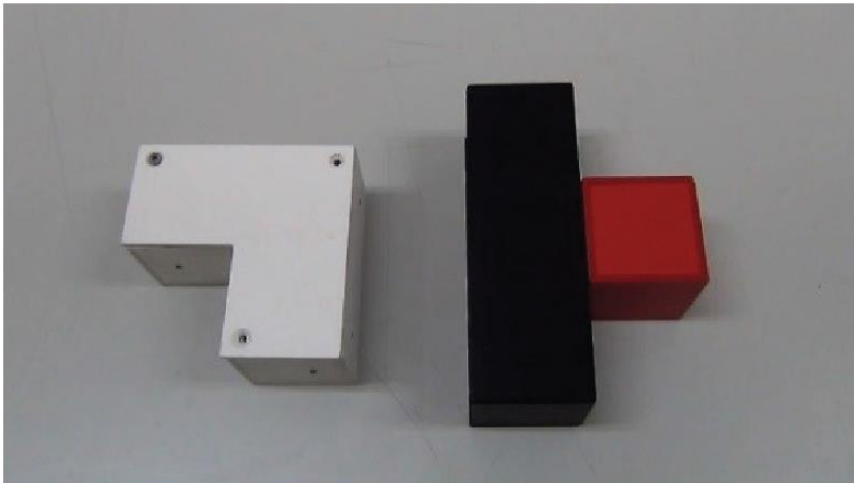
Human-Oriented Robot



A screenshot of the video when the robot introduces itself

A screenshot of the video when the user operates the block

Product-Oriented Robot



A screenshot of the video when the robot introduces itself

A screenshot of the video when the user operates the robot

STUDY DESIGN

Measures



Categorization of Robots



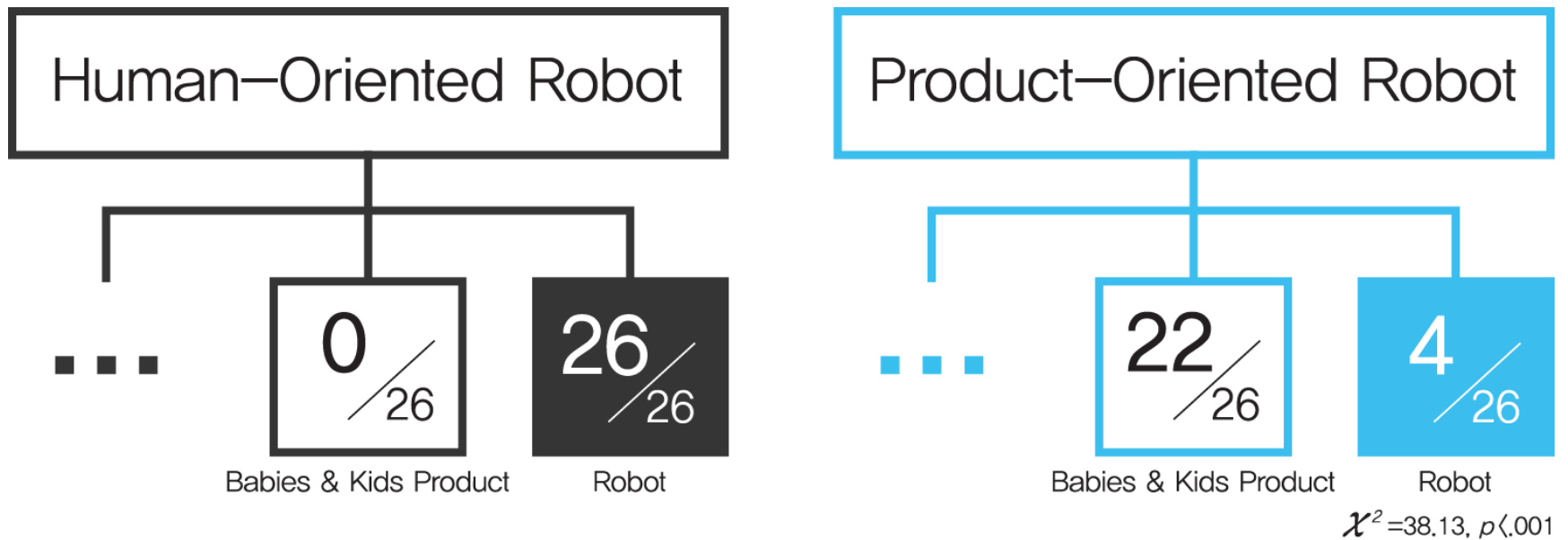
Customers' Acceptance of Robots

Product Evaluation (4items, Cronbach' s $\alpha = .97$)

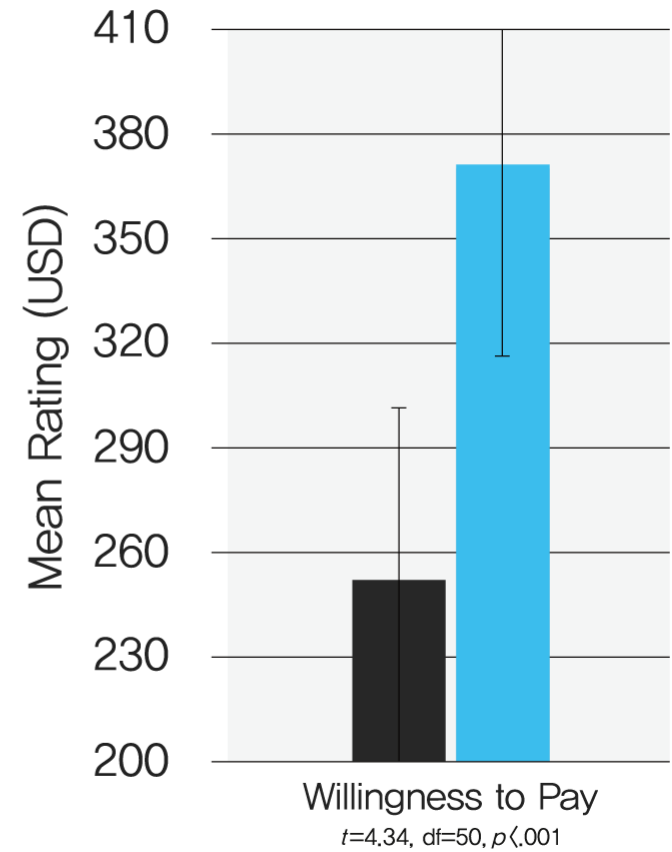
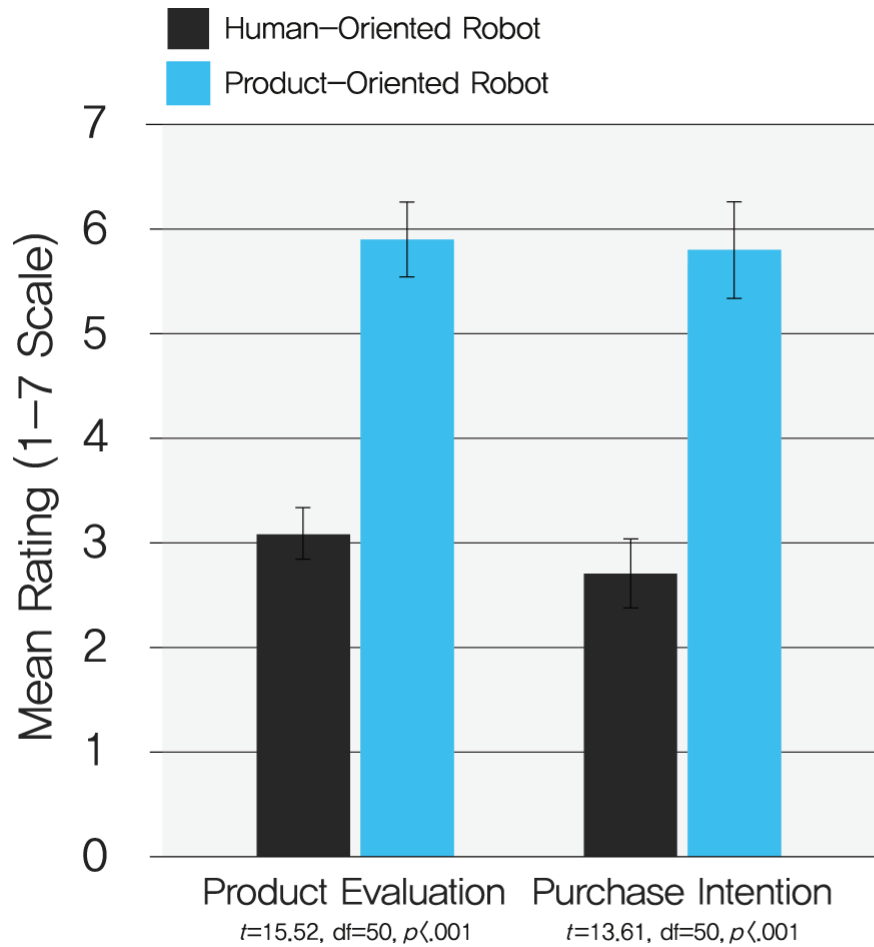
Purchase Intention (2items, Cronbach' s $\alpha = .97$)

Willingness to Pay (1item)

RESULTS



Categorization of Robots



Customers' Acceptance of Robots



Human-Oriented Robot



Product-Oriented Robot