

Do Nudges Matter?

Consumer Perception and Acceptance of Recommender Systems with Nudges

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Introduction

- Recommender System (RS) eases and enhances consumer's decision making in complex online environments.
- Nudges influence behaviors without changing economic incentives (Thaler & Sunstein, 2008).
- RS' ability to alter choice environments using nudging raises ethical concerns regarding consumer autonomy (André et al., 2018).



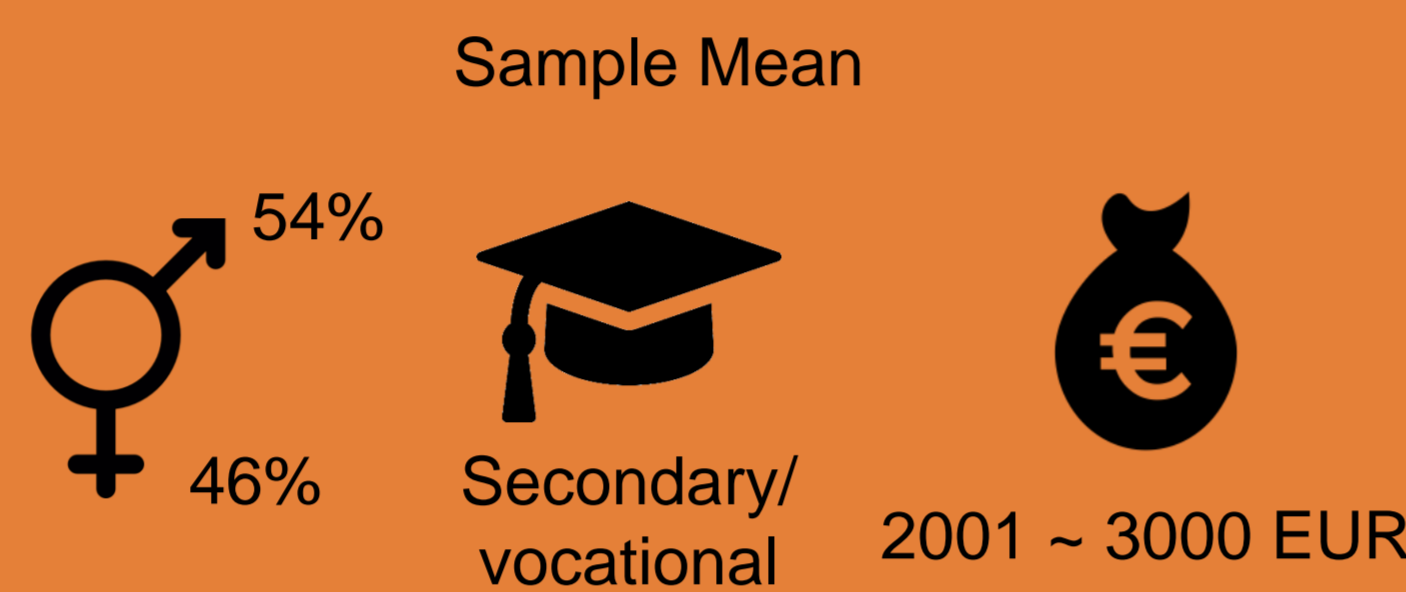
With the mock-up of a nudge-integrated RS in online food order environment, we studied the following research questions:



- which **factors** influence consumer perception of RS
- whether this **perception differs** when **nudging** is included
- if perceived manipulation and privacy concerns impair **RS acceptance**.

Subjects and Procedure

- 3000 participants (mean age 39.88 years).
- Randomly assigned to 3 groups (Fig. 1)



- **3-Step experiment:** Pre-order questionnaire → Hypothetical food ordering from 5 healthier-unhealthier pairs of dishes → Post-order questionnaire surveying participant's perception and acceptance of recommender systems and nudges (Fig.1).

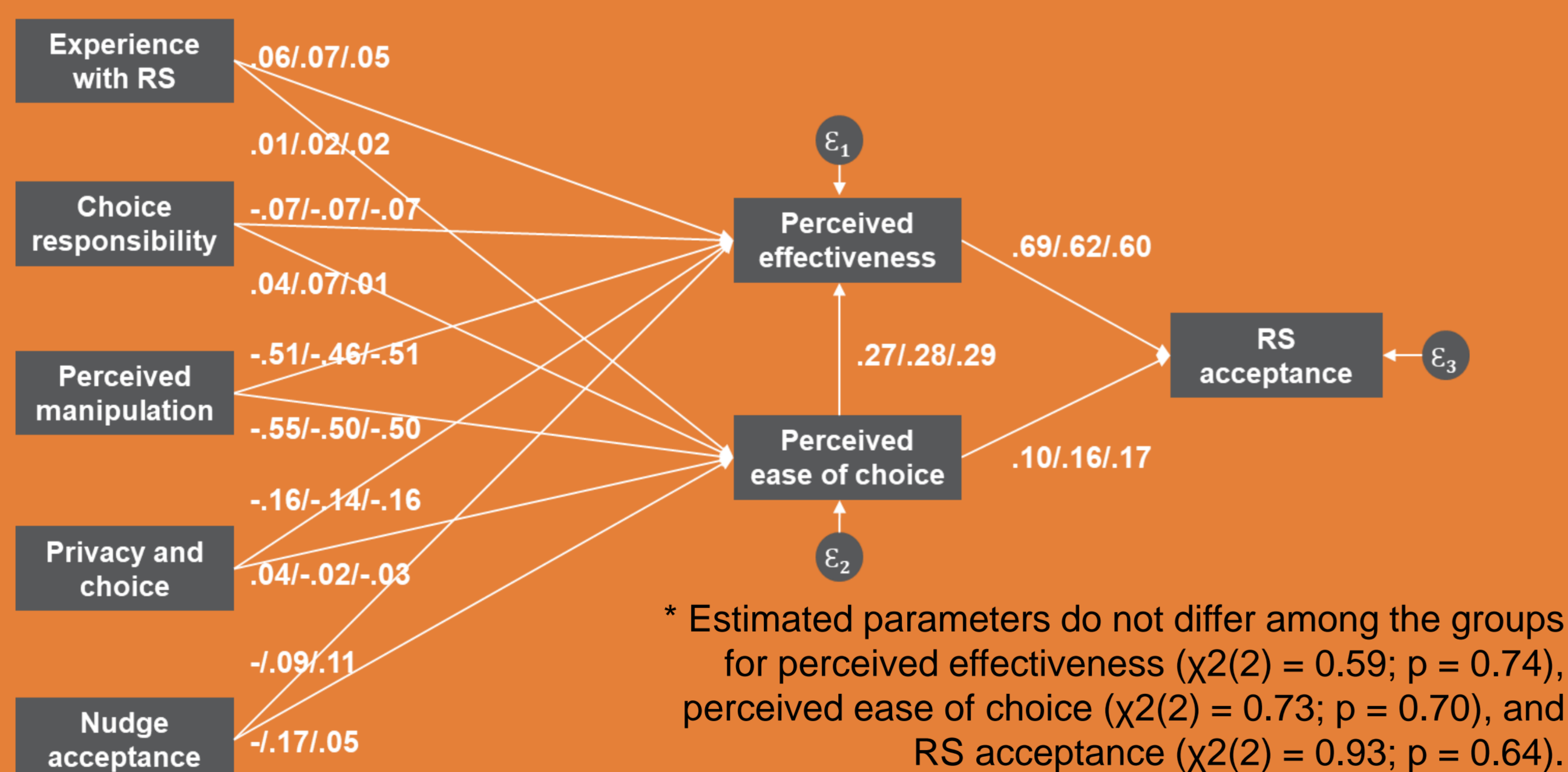
Theoretical Frameworks and Measures

- We used the Technology Acceptance Model (TAM), which analyzes and predicts people's adoption and use of novel technology, as a background for our theoretical framework (Davis et al., 1989) (Fig. 2).
- We hypothesized that the acceptance of RS is determined by the perceived effectiveness and ease of choice, both of which depend on demographic factors, experience with RS, choice responsibility, perceived manipulation, privacy and choice, and, additionally, nudge acceptance for the two treatment groups (Fig. 2).

Data Analysis

- **Confirmatory Factor Analysis.** 6 measures were constructed with 32 items using principal component factor analysis with internal reliability tested with Cronbach alpha (>0.75).
- **Structural Equation Modeling.** The final structural model consisted of 3 latent endogenous variables, 2 manifest and 3 latent exogenous variables, whose relationships were then computed with maximum likelihood models.

Figure 3. Final model with standardized path loadings



- **Acceptance** of the recommender systems by consumers **decreases** with perceived manipulation but ...
- ... consumers are **indifferent** toward the presence of nudges in choice environments.
- **Negative consumer** concerns refer to the information and algorithms used by an RS but not to the methods of choice architecture.
- Results of the study reinforce ethical concerns as **consumers** either **disregard** or **diminish** the influence of choice environments on their choice outcomes.

Methodology

Figure 1. The procedure of the experiment

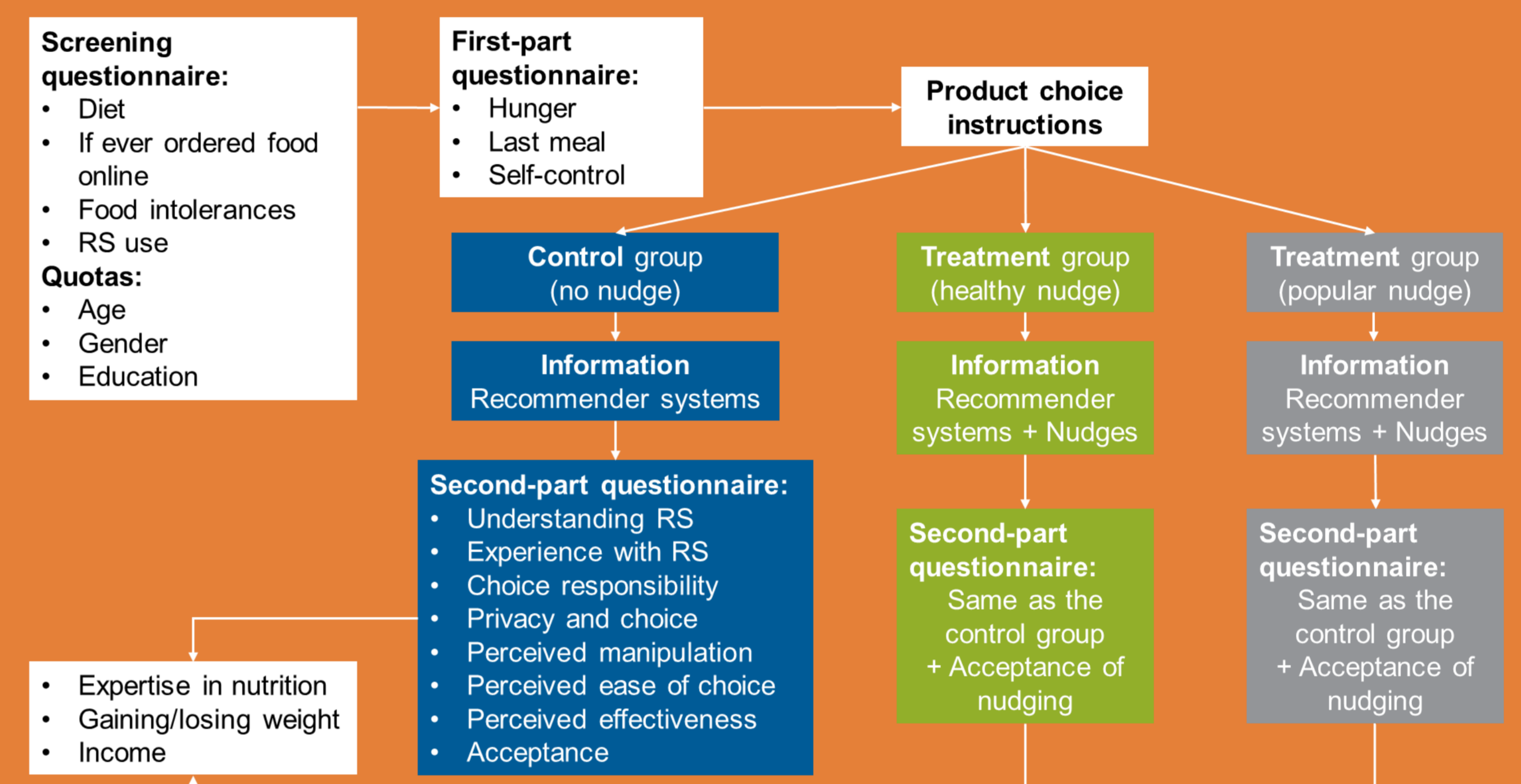
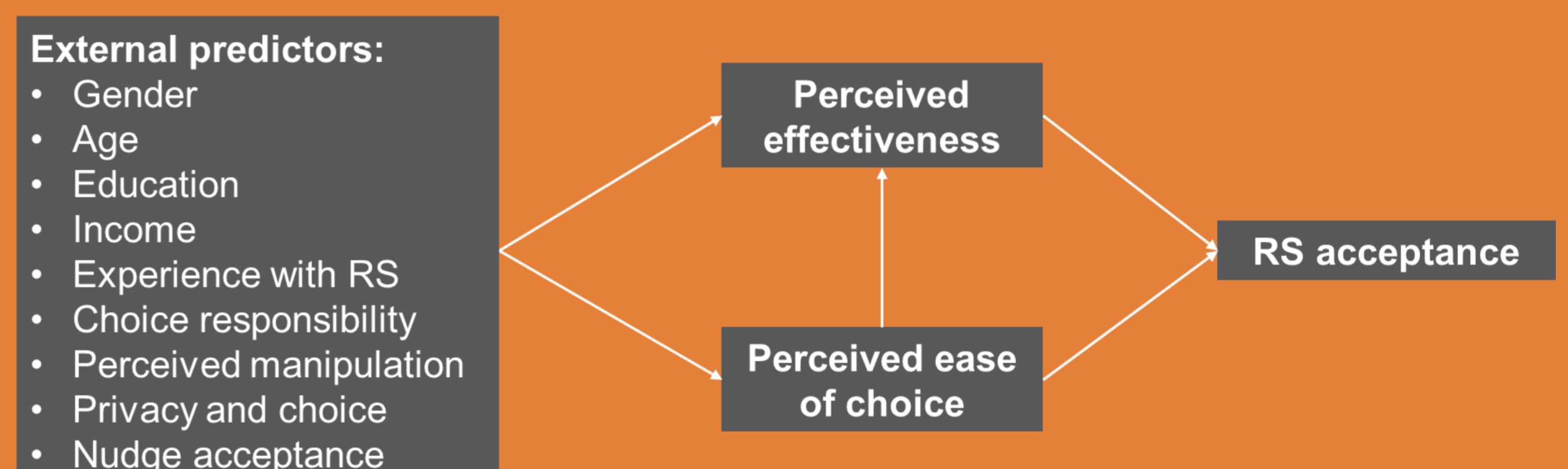


Figure 2. Framework based on Technology Acceptance Model (TAM)



Results

- The final model (Fig. 3) indicated that the perceived effectiveness and ease of choice show statistically significant effect on the acceptance of RS across all three groups, with more substantial influence from perceived effectiveness.
- Perceived effectiveness and the ease of choice decrease with consumer's perceived manipulation by the system.
- Consumers with higher emphasis on privacy and own choice responsibility perceived RS to be less effective.
- The perceived effectiveness and ease of choice did not differ among groups.

Conclusion

