

# VOICE COMMERCE

CONSUMERS' ACCEPTANCE OF A VOICE COMMERCE  
APPLICATION IN FMCG IN GERMANY, U.S. AND U.K.

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# AGENDA

**1. Introduction**

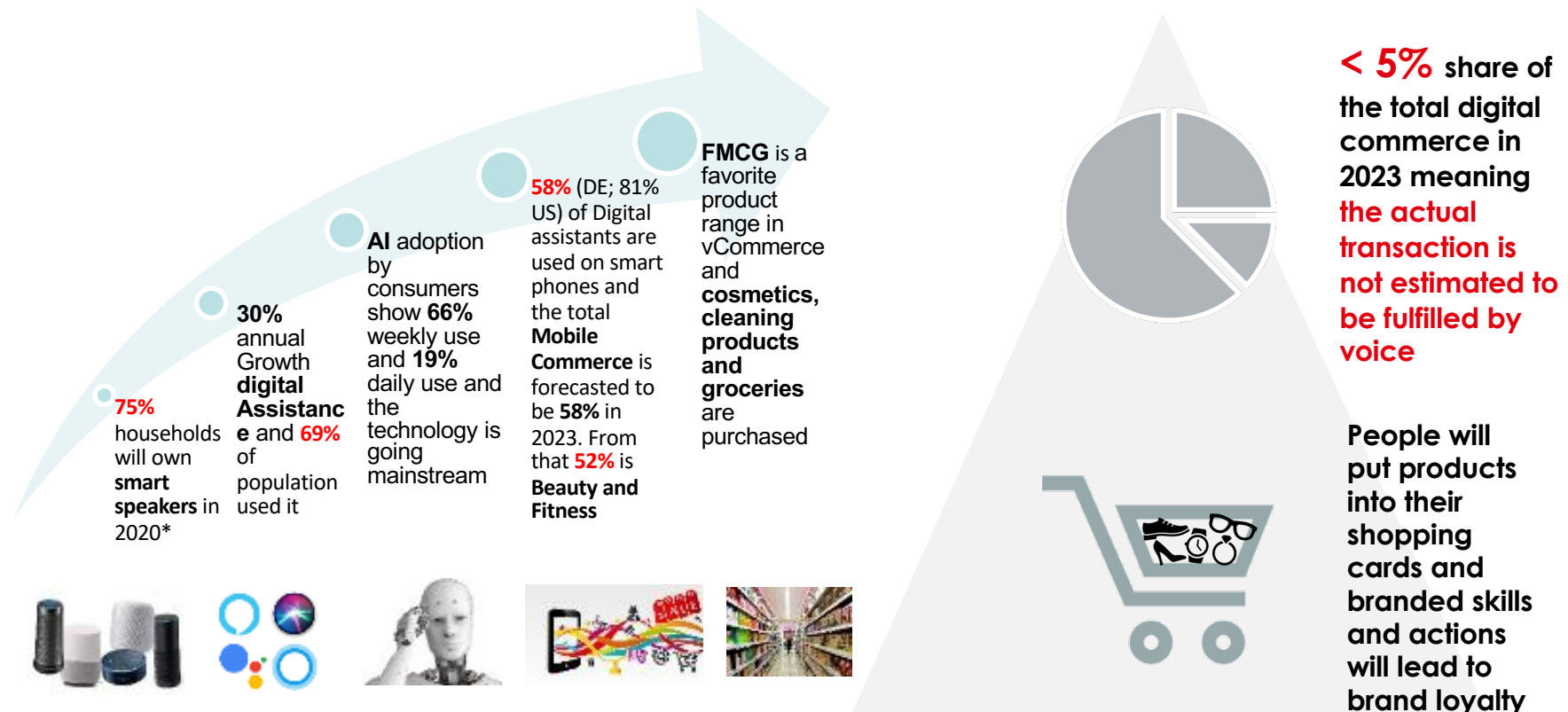
**2. Conceptual Framework**

**3. Research Design and Results**

## Definition Voice Commerce

**Voice commerce** is a special sub-set of e-commerce using terminal devices equipped with conversational user interfaces (CUI) and intelligent software programs that users operate through regular voice commands (Tuzovic/Paluch 2018).

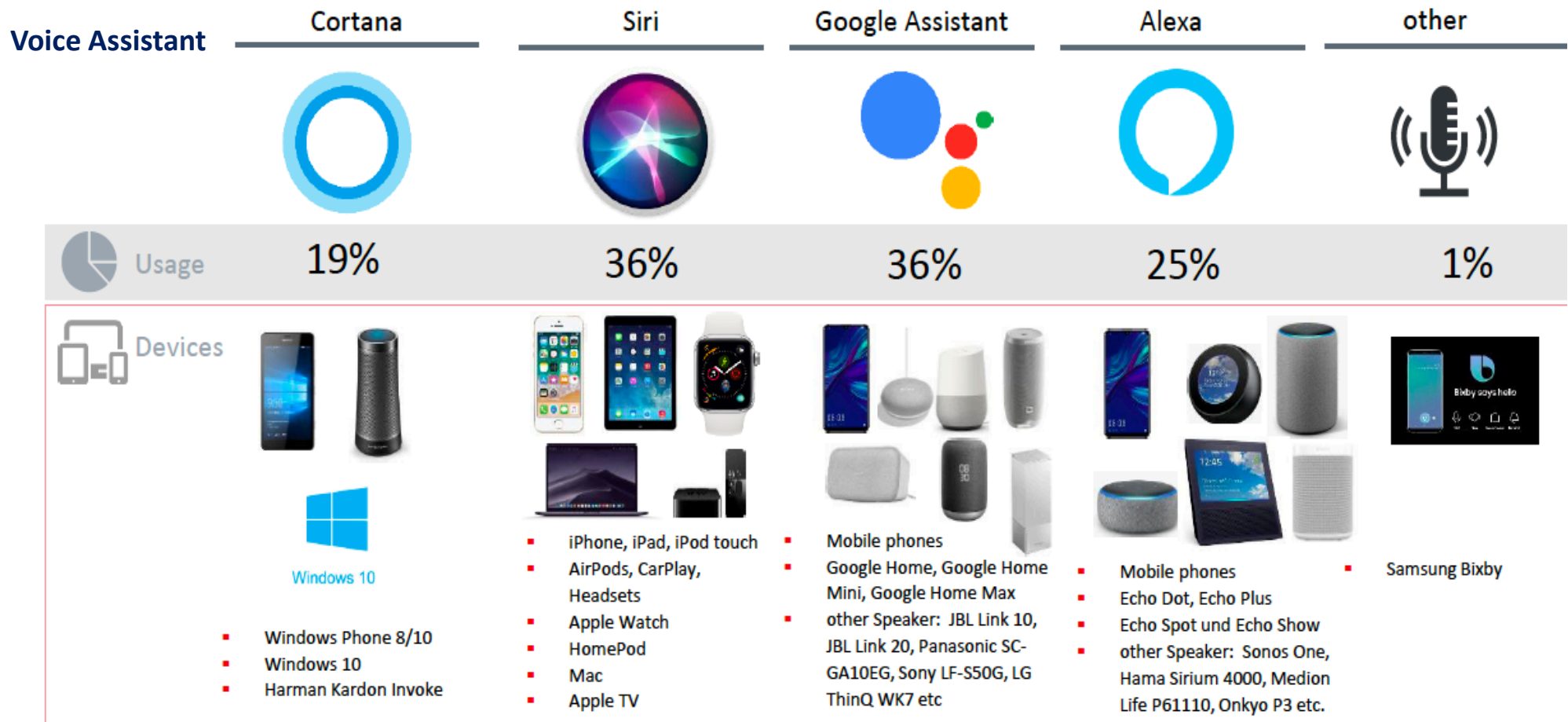
# Relevance of Voice Commerce



Source: Statista (2018) | Microsoft (2019) | Statista (2019) | \*Representing US, UK, CA, AU and IN | Euromonitor (2019) | Lebensmittel Zeitung (2019)

# Smart Speakers & Voice Assistants

The two voice assistants covering commerce the most are Alexa (skills) and Google Assistant (actions)



Source: Microsoft, Voice Report 2019

# Research Object: a German FMCG Manufacturer

A mockup of an application was created: a hair advisor based on visual content



The mockup was created as a female and male version to make the identification for both genders possible

## Research questions



**Is there an intent to use the voice application (acceptance)?**

**Which factors influence the intention to use the voice application and to what extent?**

**Are there differences between the studied countries Germany, U.S. and U.K.?**

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Conceptual Framework

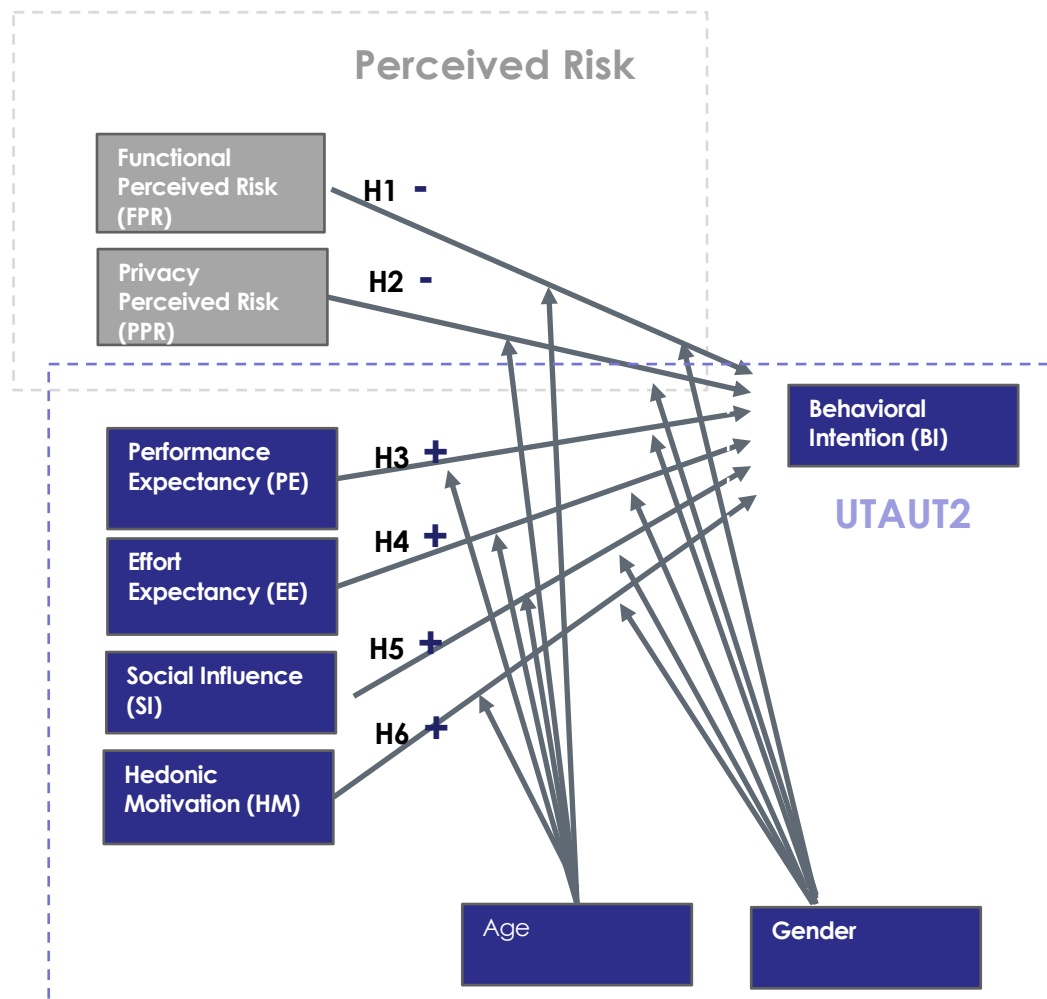
3.

Research Design and Results



# Model of the Acceptance of Voice Commerce in FMCG

Adapted model based on the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2)



**Perceived Risk:**

The degree to which a user thinks that using the application will have negative implications for him or her.

PE: The extent to which the consumer expects a performance advantage (benefit) from using the application.

EE: The amount of effort expected when using the application.

SI: The extent to which a person perceives that important people in the community believe that the person should use the application.

HM: The extent of fun and satisfaction that a consumer feels while using the application.

# Hypotheses

**H1:** The influence of FPR on BI is negative.

**H1a:** The influence of FPR on BI is weaker for younger people.

**H1b:** The influence of FPR on BI is stronger for women.

**H2:** The influence of PPR on BI is negative.

**H2a:** The influence of PPR on BI is weaker for younger people.

**H2b:** The influence of PPR on BI is stronger for women.

**H3:** The influence of PE on BI is positive.

**H3a:** The influence of PE on BI is stronger for younger people.

**H3b:** The influence of PE on BI is weaker for women than men.

**H4:** The influence of EE on BI is positive.

**H4a:** The influence of EE on BI is stronger for younger people.

**H4b:** The influence of EE on BI is stronger for women.

**H5:** The influence of SI on BI is positive.

**H5a:** The influence of SI on BI is stronger for older people.

**H5b:** The influence of SI on BI is stronger for women.

**H6:** The influence of HM on BI is positive.

**H6a:** The influence of HM on BI is stronger for younger people.

**H6b:** The influence of HM on BI is weaker for women.

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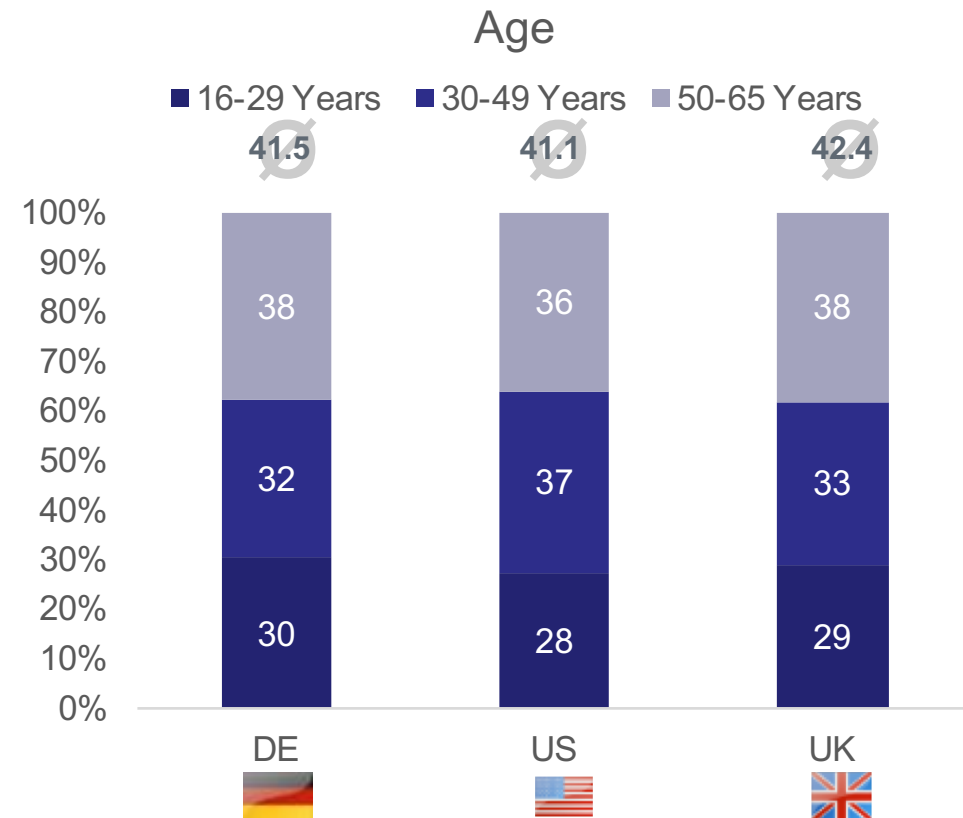
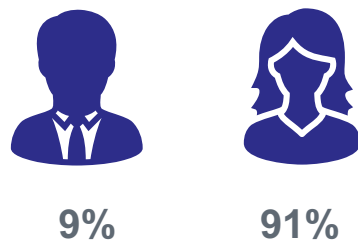
Research Design and Results

# Research Design

Online survey of 824 online shoppers from Germany, UK and US



## Gender



## Operationalization of the Constructs

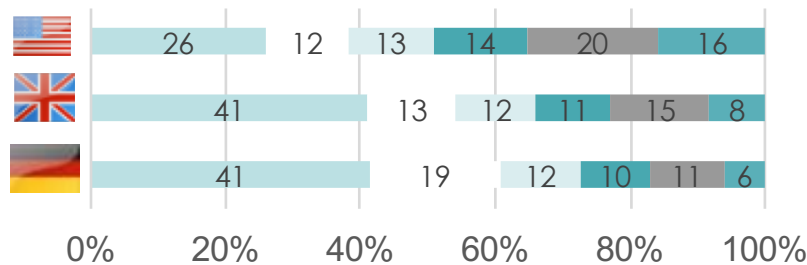
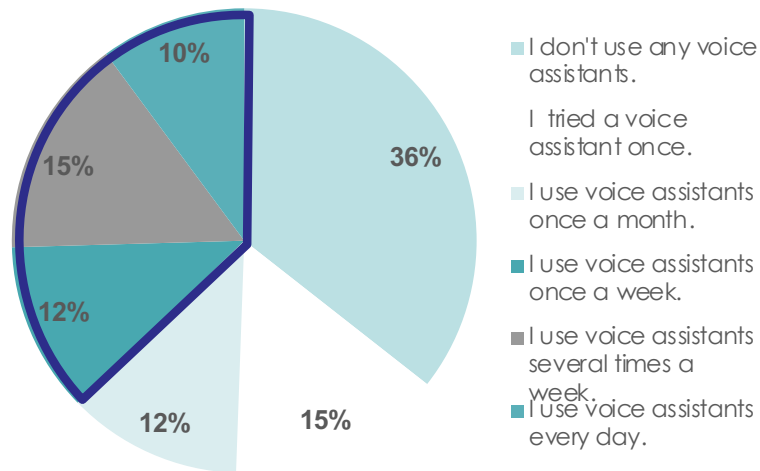
- The **behavioral intention** was measured based on a 5-level Likert Scale (1 = highly unlikely / 5 = highly likely).
- The other **constructs** were measured using multi-item scales (1 = strongly disagree / 5 = strongly agree).
- Quality check and testing of univariate exploratory factor analysis (EFA) was done in advance.
- Confirmatory factor analysis (CFA) was performed on the total database; **total result: very good**
- For all constructs the quality criteria **ITC  $\geq 0.4$ ; Cronbach's alpha  $\geq 0.7$ ; factor loadings  $\geq 0.7$ ; indicator reliability  $\geq 0.5$ ; factor reliability  $\geq 0.6$ , AVE  $\geq 0.5$  and the Fornell-Larcker criterion were met.**

# Research findings

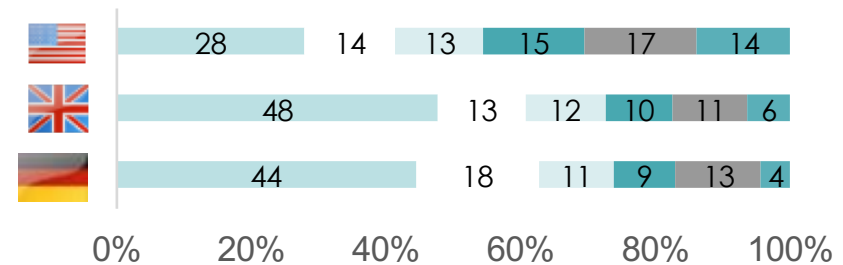
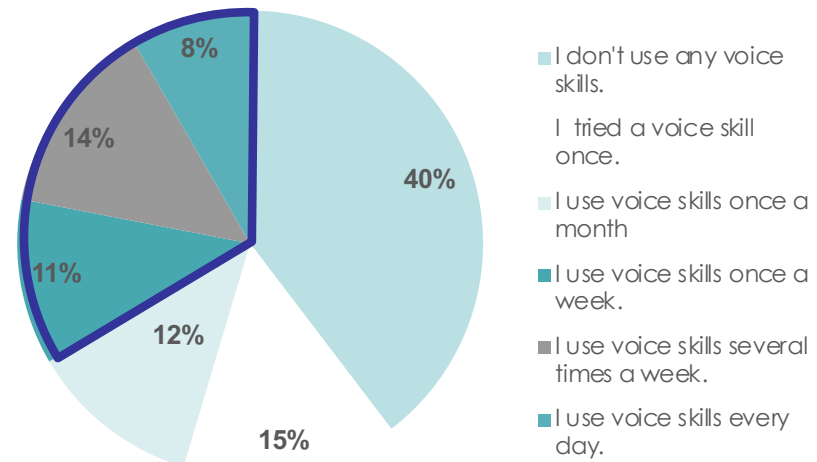
Most of the respondents don't use Voice Assistance and Voice Skills yet but 1/3 shows a regular usage.

n=824

Use of **Voice Assistance**



Use of **Voice Skills**

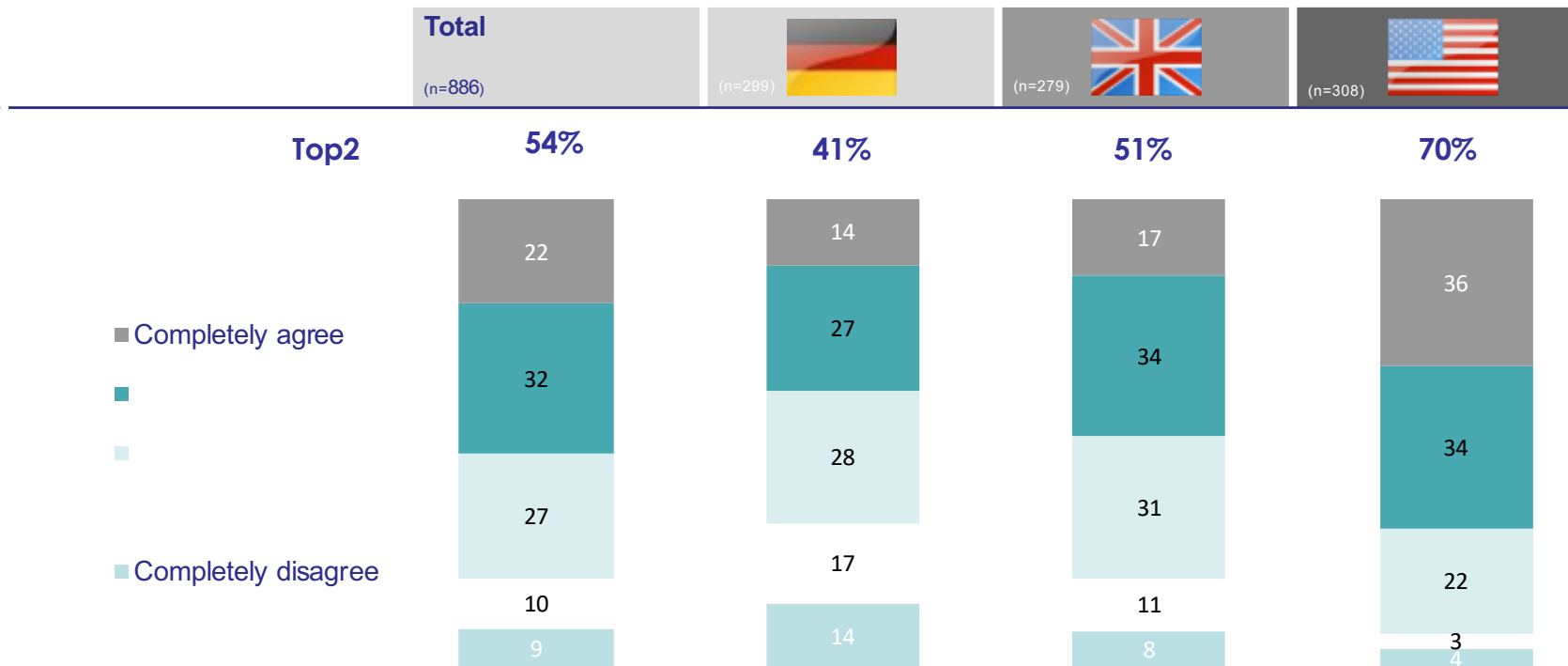


In %.



# Behavioral Intention (BI)

The highest share of people who state intentions to use the application are in the U.S. (70%) followed by U.K. (51%)

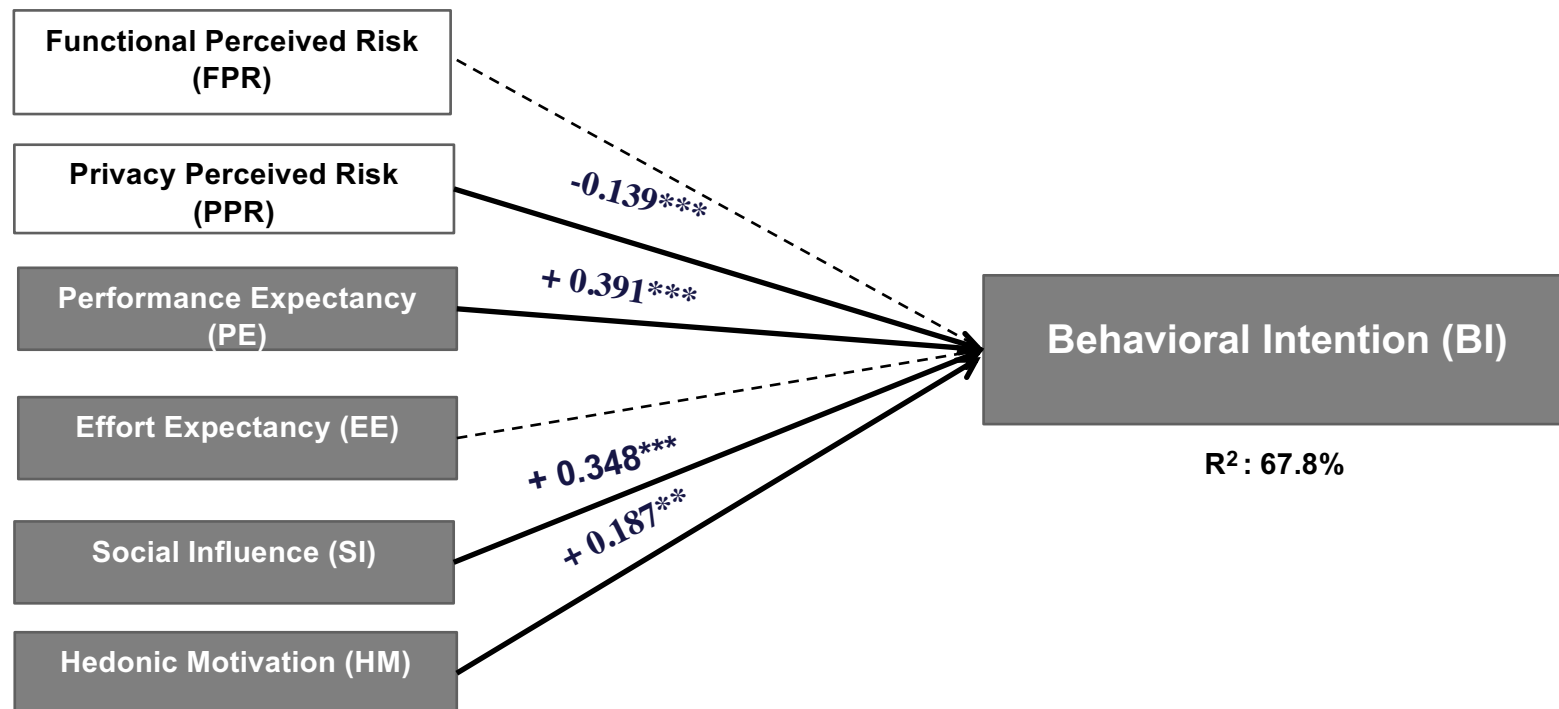


In %  
Question BI\_1: I intend to use the application in the future.

# Germany: Results of Multiple Regression Analysis



PPR, PE, SI and HM have significant effects on BI in Germany



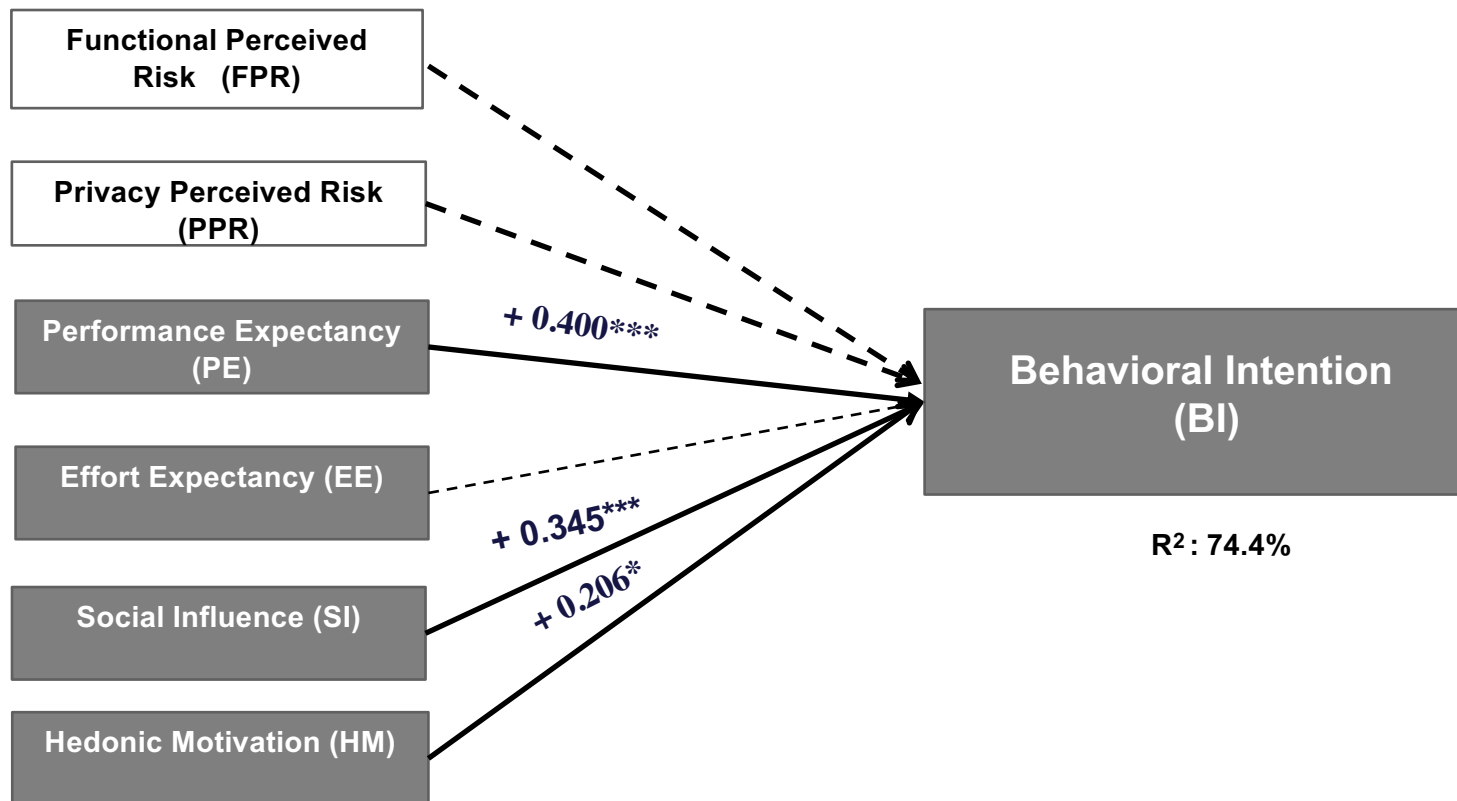
\*\*\* significant at  $p < .01$  level, \*\* significant at  $p < .05$  level; significant at  $p < .10$  level; n.s. not significant;  $n=281$



# U.K.: Results of Multiple Regression Analysis

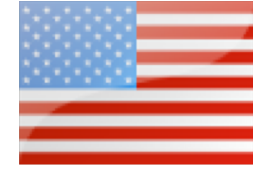


PE, SI and HM have significant effects on BI in the United Kingdom

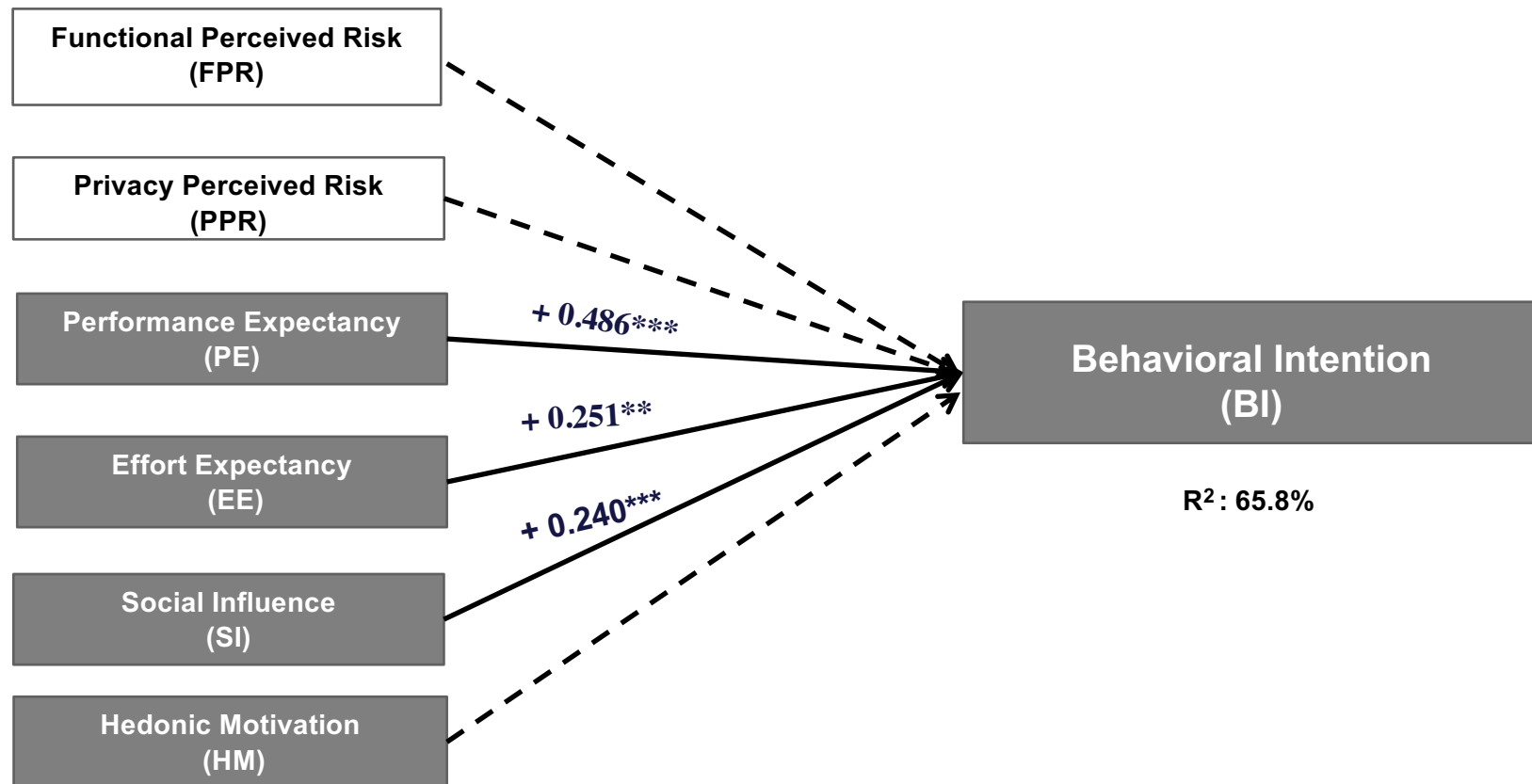


\*\*\* significant at  $p < .01$  level, \*\* significant at  $p < .05$  level; significant at  $p < .10$  level; n.s. not significant;  $n=286$

# U.S.: Results of Multiple Regression Analysis



PE, EE and SI have significant effects on BI in in the United States

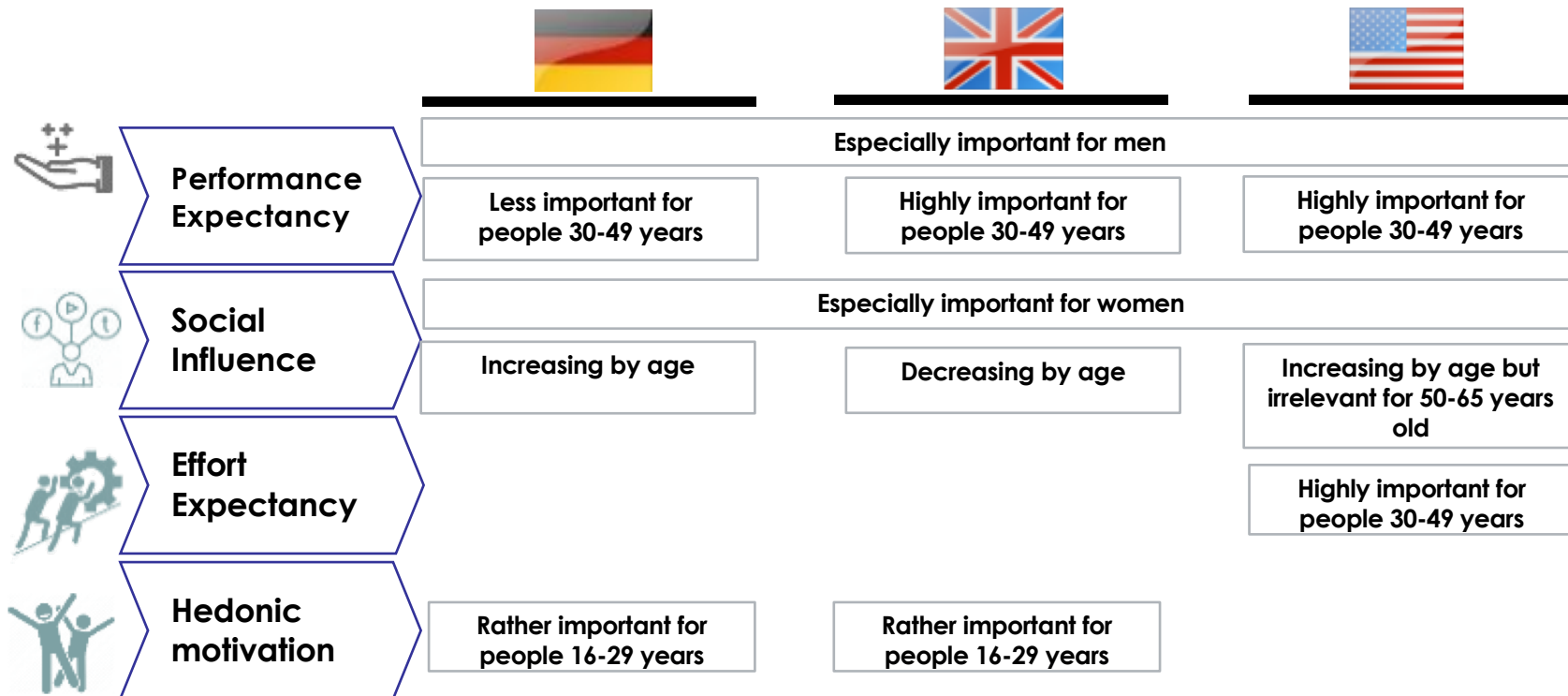


\*\*\* significant at  $p < .01$  level, \*\* significant at  $p < .05$  level; significant at  $p < .10$  level; n.s. not significant;  $n=257$

# Triggers for the intention to use

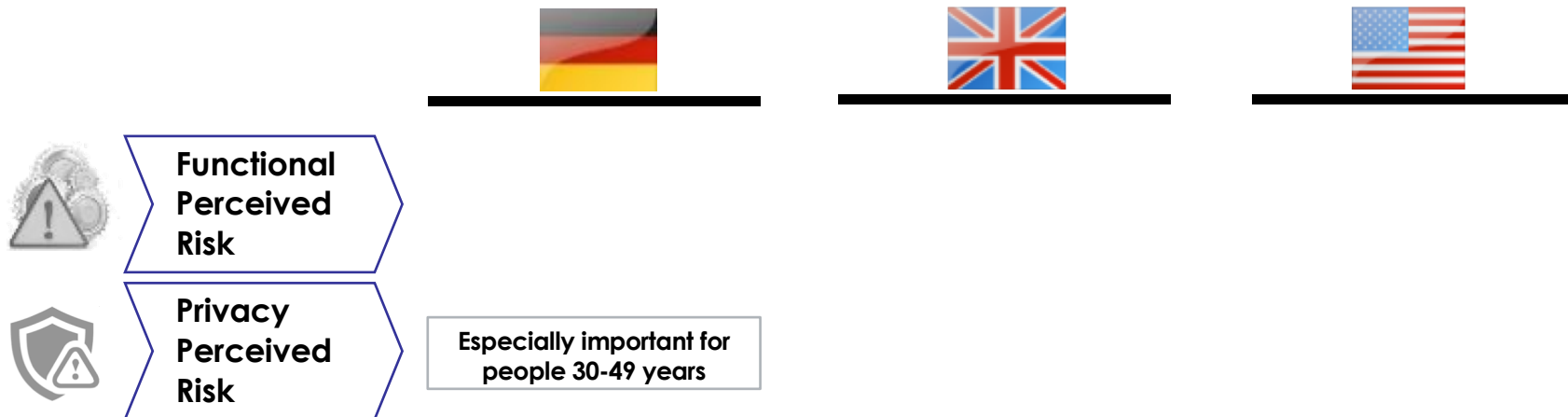
Performance Expectancy and Social Influence are the factors that have the strongest influence on Behavioral Intention.

PE is especially important for men; SI especially important for women



## Barriers for the intention to use

Only in Germany the Privacy Risk has a negative influence, for all other countries the risk predictors are not significant.



## Conclusions & Limitations

- Opportunities and risks of voice commerce for consumers **are weighed differently** depending on the country.
- **Performance expectancy** and **social influence** have a **significant influence** in all three countries.
- **Performance expectancy** has the **strongest effect** in all countries.
- The **influence of performance expectancy** is **higher for men**.
- **Social influence** is **higher for women**.
- Only **privacy risk** has a **weak but highly significant** negative influence on the intent to use in **Germany**.
- It is advisable to **consider the specific circumstances of each country** when developing and implementing voice commerce applications.
- The results of the study are relevant for **FMCG manufacturers** in the area of beauty care products and their voice commerce application.

**Thank you!**