Virtual Conversational Agents & Gender

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Frauenvortragsmarathon
8. März 2024
Hallo! Ich bin Marie, Ihre virtuelle Serviceberaterin von Deutsche Post DHL. Schön, dass Sie hier sind! 😊

Hier geht's zu unserer Datenschutzerklärung.

Wobei kann ich Ihnen helfen?

Ich habe ein Anliegen zu einer konkreten Sendung.

Ich habe ein anderes Anliegen.

Hallo, ich bin Emmi - Ihr MediaMarkt Chatbot! Gerne versuche ich Ihre Fragen zu unseren MediaMärkten, Produktverfügbarkeiten oder allgemeinen Themen zu beantworten. Ich freue mich, wenn Sie mich kontaktieren.

Molli - Ryanair ChatBot
Kundesupport

Welcome to Ryanair, I am here to help you.

Why did the pilot not land in Aarhus last night, when he flew from Gdansk?
Visual vs. verbal cues of gendered VCAs

- In the context of online customer services: „A virtual conversational agent (VCA) represents a computer generated, virtual character that engages in conversations with customers, responds to their questions and performs adequate non-verbal behavior.“ (Pan & Hamilton, 2018)

- Visual appearance of gendered VCAs (Borau et al., 2021)
- Verbal cues = „Genderlect“ (Lee et al., 2019; Tannen, 1991)
Why? Investigating underlying processes

- Social presence theory (Borau et al., 2021; Heerink et al., 2009)
- Social role theory & gender stereotypes (Betz et al., 1989)
- Stereotype content model (SCM) (Fiske et al., 2002): Warmth vs. competence
- Transferable to VCA?
When? Investigating moderating influences

- Personal: Consumer gender (similarity-attraction theory, Roth, 2004)
- Situational: Consumer context x stereotypes (Makransky et al., 2019)
Empirical studies: Methods

Study 1: Visual cues

- **Study design:** 2 (VCA gender: female, male) x 3 (consumer context: finance, fashion, travel) x 2 (consumer gender: female, male)

- **Stimulus:**

- **Sample:** n = 271, $M_{age} = 33.80$, $SD = 12.83$, 62% females

- **Measures:** Competence, socialbility, morality (Leach et al., 2007), trust & social presence (Heerink et al., 2009), context gender, personal information & controls

Notes: Avatars were investigated by and taken from Borau et al. (2021)

Study 2: Verbal cues

- **Study design:** 2 (VCA gender: female, male) x 2 (consumer gender: female, male)

- **Stimulus:**

- **Sample:** n = 127, $M_{age} = 32.56$, $SD = 14.83$, 59% females

- **Measures:** Competence, socialbility, morality (Leach et al., 2007), trust & social presence (Heerink et al., 2009), chatbot gender, personal information & controls
Empirical studies: Results I (mediators)

Study 1: Visual cues

- **Sociability**
  - VCAs gender (0=male; 1=female)
  - Direct effect, $b = .15^{ns}$
- **Morality**
  - Indirect effect (Sociability), $b = .17$, 95% CI [0.05, 0.34]
  - Indirect effect (Morality), $b = .12$, 95% CI [-0.05, 0.29]
  - Indirect effect (Competence), $b = .09$, 95% CI [-0.02, 0.23]
- **Competence**
  - $b = .64^{***}$
  - $b = .14^{ns}$

**Controls**: Loneliness, Anthropomorphism tendency, Personal innovativeness

Study 2: Verbal cues

- **Sociability**
  - VCAs gender (0=male; 1=female)
  - Direct effect, $b = .06^{ns}$
- **Morality**
  - Indirect effect (Sociability), $b = .44$, 95% CI [0.21, 0.74]
  - Indirect effect (Morality), $b = .01$, 95% CI [-0.13, 0.19]
  - Indirect effect (Competence), $b = -.03$, 95% CI [-0.17, 0.05]
- **Competence**
  - $b = .22^{**}$
  - $b = .15^{ns}$
  - $b = .36^{***}$

**Controls**: Loneliness, Anthropomorphism tendency, Personal innovativeness

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*** $p < .001$, ** $p < .01$, * $p < .05$, $+ p < .1$, ns = not significant

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Empirical studies: Results II (moderators)

Study 1: Visual cues
- No moderating effects of consumer gender & consumer context

Study 2: Verbal cues
- Moderating effect of consumer gender: The indirect effect of VCA’s gender on social presence through sociability was only significant for females ($b_{indirect} = .57$, SE=.20, 95%CI [.21, 1.01])
General discussion

Theoretical & practical implications:

- Different roles of sociability and morality (Leach et al., 2007)
- Building social presence through sociability
- The effect of gender seems to be relevant across different consumer contexts
- Female appearance is preferred by both females and males
- Communication style is preferred differently

Limitations & future research:

- Effects of other cues (auditory and a combination of different ones)
- Stimuli were limited in their functionality (e.g., no chatbot interaction)
- Consumer response to gender-neutral VCAs
References


