

*Master Thesis Topics*  
*Chair of Marketing & Customer Insight*

## **AI-Powered Marketing Visuals from Single-Image Generation**

The rise of e-commerce and digital marketplaces has empowered individuals and small businesses to sell products on a global scale. However, these small-scale sellers often lack the resources, expertise, or equipment to create high-quality marketing visuals. Traditional product photography requires access to professional cameras, lighting setups, and editing software, making it both time-consuming and costly for many. Advancements in AI-driven image generation are reshaping how businesses approach visual marketing. Subject-driven image generation, capable of creating high-quality visuals from minimal inputs such as a single image<sup>1</sup>, and dependent on the user's description of the desired image with a text input (a prompt)<sup>2</sup>, offers transformative potential in the production of scalable content.

Academic research has identified several factors that can influence attention and recall of images, such as relevance, contrast, aesthetics, context, and complexity<sup>3</sup>. Gaining insights in these influences are of great importance since attracting consumers' attention is the first interaction between the consumer and the brand. By leveraging subject-driven generation technologies, small businesses and individuals can bypass traditional constraints, generating product visuals that are not only photorealistic but also tailored to their branding and audience preferences. This thesis topic focuses on exploring the potential of subject-driven AI image generation to produce high-quality marketing visuals from minimal inputs, such as a single product image. You will have the opportunity to work with cutting-edge generative AI models and investigate how these technologies can be utilized to create professional-grade visuals tailored for diverse marketing needs. During your thesis, you will apply AI and machine learning to develop a generative pipeline that enables the automated creation of impactful and engaging marketing visuals.

If you are interested, please get in touch with

Tijmen Jansen

[Tijmen.jansen@uni-hamburg.de](mailto:Tijmen.jansen@uni-hamburg.de)

Related Literature:

- Tan, Z., Liu, S., Yang, X., Xue, Q. & Wang, X. (2024). OminiControl: Minimal and Universal Control for Stable Transformer. [arXiv:2411.15098](https://arxiv.org/abs/2411.15098)
- Harmann, J., Exner, Y. & Domdey, S. (2024). The power of generative marketing: Can generative AI create superhuman visual marketing content? *International Journal of Research in Marketing*.
- Jansen, T., Heitmann, M., Reisenbichler, M. & Scheidel, D. A. (2024). Automated Alignment: Guiding Visual Generative AI for Brand Building and Customer Engagement. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4656622](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4656622)

<sup>1</sup>Tan, Z., Liu, S., Yang, X., Xue, Q. & Wang, X. (2024). OminiControl: Minimal and Universal Control for Stable Transformer. [arXiv:2411.15098](https://arxiv.org/abs/2411.15098)

<sup>2</sup>OpenArt (2022). Stable Diffusion Prompt Book. Retrieved March 1, 2023, from <https://openart.ai/promptbook>

<sup>3</sup>Pilarczyk, J., & Kuniecki, M. (2014). Emotional content of an image attracts attention more than visually salient features in various signal-to-noise ratio conditions. *Journal of Vision*, 14(12), 4–4. <https://doi.org/10.1167/14.12.4>.

## Exploring the Potential of Video Generation in Marketing Campaigns

The advent of visual generative AI models such as Stable Diffusion and DALL·E is revolutionizing the marketing industry by unlocking new creative possibilities. These technologies are changing the game for content creation, empowering marketers to innovate in how they communicate their brand and engage with consumers. With the ability to produce high-quality images and videos rapidly, these AI tools are expediting the content creation process and cutting down on production costs. Despite this technological leap, there remains a gap in research concerning the actual effectiveness of these generative models within marketing campaigns. This gap presents an opportunity for valuable insights, especially as the technology advances to encompass video generation.

In your master thesis you explore the potential of using generative AI to create effective video campaigns, an area that has not been extensively researched. By combining Machine Learning methods with survey-based research, you will investigate the key factors that contribute to successful video advertising. Through the use of cutting-edge Image-to-Video and Text-to-Video models, you will be able to generate impactful video campaigns quickly and efficiently by the end of your thesis.

During your thesis, we guide you in creating good empirical research and support you in understanding the technologies and models you will work with.

The master's thesis is preferably written in English.

If your excitement is sparked by exploring the potential of video generation in marketing campaigns, please get in touch with

Tijmen Jansen

[Tijmen.jansen@uni-hamburg.de](mailto:Tijmen.jansen@uni-hamburg.de)

Related Literature:

- Jansen, T., Heitmann, M., Reisenbichler, M. & Scheidel, D. A. (2023). Automated Alignment: Guiding Visual Generative AI for Brand Building and Customer Engagement. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4656622](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4656622)
- Baumgartner, H., Sujan, M., & Padgett, D. (1997). Patterns of Affective Reactions to Advertisements: The Integration of Moment-to-Moment Responses into Overall Judgments. *Journal of Marketing Research*, 34(2), 219- 232.
- Teixeira, T., Wedel, M., & Pieters, R. (2012). Emotion-Induced Engagement in Internet Video Advertisements. *Journal of Marketing Research*, 49(2), 144-159. <https://doi.org/10.1509/jmr.10.0207>.

# Modality Matters: Exploring Human-AI Collaboration in Idea Creation

Research increasingly finds that AI-human collaboration significantly enhances creativity and productivity by combining AI's analytical capabilities with human contextual understanding<sup>1</sup>. By leveraging AI systems in collaborative workflows, users can generate, refine, and implement ideas more efficiently across various phases of innovation. However, the way AI interacts with users, whether through text, audio, or video, plays a critical role in shaping the effectiveness of these interactions. Each communication modality offers unique strengths and weaknesses, making some better suited for specific tasks than others.

Each communication modality contributes differently to the collaborative process, influencing how effectively ideas are generated, refined, and finalized<sup>2</sup>. Understanding these differences and determining which modality is most effective during specific phases of idea creation is crucial for optimizing human-AI interaction. This is especially relevant as organizations seek to integrate AI into workflows that balance productivity and creativity.

In this thesis, you will investigate how communication modalities influence human-AI collaboration during phases of the idea creation (ideation, development, and finalization). By setting up an experiment with a case study, focusing on one of the phases of idea creation, participants will interact with AI systems using text, audio, or video. This will provide insights into the strengths and limitations of the different modalities. Your thesis aims to uncover which format best supports creativity, engagement, and efficiency in collaborative innovation, providing practical recommendations for integrating AI effectively into professional workflows.

If you are interested, please get in touch with

Tijmen Jansen and Claus Hegmann-Napp

[tijmen.jansen@uni-hamburg.de](mailto:tijmen.jansen@uni-hamburg.de) and [claus.hegmann@uni-hamburg.de](mailto:claus.hegmann@uni-hamburg.de)

## Related Literature:

- Huang, M. H. & Rust, R. T. (2024). The caring machine: Feeling AI for customer care. *Journal of Marketing*, 88(5).
- Arora, N., Chakraborty, I., & Nishimura, Y. (2024). EXPRESS: AI-Human Hybrids for Marketing Research: Leveraging LLMs as Collaborators. *Journal of Marketing*.
- Boussioux, L., Lane, J. N., Zhang, M., Jacimovic, V., and Lakhani, K. R. (2024). The crowdless future? generative ai and creative problem-solving. *Organization Science*, 35(5).
- Huang, M. H. & Rust, R. T. (2021). Engaged to a robot? the role of AI in service. *Journal of Service Research*, 24(1).

<sup>1</sup>Huang, M. H. & Rust, R. T. (2021). Engaged to a robot? The role of AI in service. *Journal of Service Research*, 24(1), 30–41.

<sup>2</sup>Kahai, S. S., & Randolph, B. C. (2003). Exploring the core concepts of media richness theory: The impact of cue multiplicity and feedback immediacy on decision quality. *Journal of Management Information Systems*, 20(1), 263–299.

## **Tailoring Customer Service: Exploring (Automated) Support Customized for Different Customer Segments**

In the realm of customer service, a generalized approach may not suit all customers. This master's thesis aims to explore the potential of creating 'tailor-made' (automated) customer support systems capable of distinguishing and adapting to various customer segments. The focus is on how these systems can vary their communication styles and strategies to accommodate the unique needs and preferences of diverse customer groups. An empirical study to identify the distinct needs of different customer segments could also be included in this thesis.

This research aims to assess the feasibility and effectiveness of developing automated customer support systems that possess dynamic adaptability, adjusting their approach based on the specific customer segment they interact with. Responses to this inquiry can address the following aspects:

- The diverse expectations different customer segments have from customer support services, focusing on factors such as speed, personalization, communication style, and problem-solving efficiency.
- How these varying expectations influence the perception and satisfaction with the customer service provided.
- The impact of meeting or failing to meet these expectations on overall customer experience and loyalty.

The master's thesis can be written in either English or German.

If you are intrigued by the idea of potentially improving customer service through technology and are interested in enhancing customer experience, this thesis topic presents an exciting opportunity. For further details and to participate in this pioneering research, please contact

Claus Hegmann-Napp

[Claus.hegmann@uni-hamburg.de](mailto:Claus.hegmann@uni-hamburg.de)

Related Literature:

- Anderson, E. W., Fornell, C., & Mazvancheryl, S. K. (2004). Customer Satisfaction and Shareholder Value. *Journal of Marketing*, 68(4), 172–185.  
<https://doi.org/10.1509/jmkg.68.4.172.42723>
- Braun, M., & Bonfrer, A. (2011). Scalable Inference of Customer Similarities from Interactions Data Using Dirichlet Processes. *Marketing Science*, 30(3), 513–531.  
<https://doi.org/10.1287/mksc.1110.0640>
- Sergeant, A., & Frenkel, S. (2000). When Do Customer Contact Employees Satisfy Customers? *Journal of Service Research*, 3(1), 18–34.  
<https://doi.org/10.1177/109467050031002>

# **Mastering Customer Contact: Analyzing Communication on Social Networks and the Role of AI-based Language Models**

In the digital age, customer service on social media platforms like Instagram and Twitter has become a vital channel for companies to engage with their audience. This master's thesis aims to dissect the critical features of this communication channel, focusing on how companies can successfully interact with customers in these digital environments. Special attention will be given to the nuances of communication on social networks, exploring what constitutes effective and satisfactory communication from the consumers' perspective.

The main goal is to identify key aspects of successful consumer communication on social media platforms and understand consumer expectations in these digital interactions. Additionally, the thesis will explore how AI-based language models could be trained and applied to enhance this communication, potentially enhancing brand communication methods on social media.

If you are interested in the field of brand communication with a bigger focus on social media channels, this thesis may present an interesting challenge. For further details and to participate in this research, please contact:

Claus Hegmann-Napp  
[claus.hegmann@uni-hamburg.de](mailto:claus.hegmann@uni-hamburg.de)

## **Related Literature:**

- Appel, G., Grewal, L., Hadi, R., & Stephen, A. T. (2020). The future of social media in marketing. *Journal of the Academy of Marketing Science*, 48(1), 79–95.
- Batra, R., & Keller, K. L. (2016). Integrating Marketing Communications: New Findings, New Lessons, and New Ideas. *Journal of Marketing*, 80(6), 122–145
- Hewett, K., Rand, W., Rust, R. T., & Van Heerde, H. J. (2016). Brand Buzz in the Echoverse. *Journal of Marketing*, 80(3), 1–24
- Kumar, A., Bezawada, R., Rishika, R., Janakiraman, R., & Kannan, P. K. (2016). From Social to Sale: The Effects of Firm-Generated Content in Social Media on Customer Behavior. *Journal of Marketing*, 80(1), 7–25.

## AI application in the political discourse

AI is emerging as a significant player in political discourse, offering both opportunities and challenges. It has the potential to revolutionize political education through improved information systems and foster better discourse among voters. However, ethical concerns arise regarding its influence on political opinions. This master's thesis offers you the chance to investigate the role of AI in political communication and education. You can work with real-time field data or create experimental setups, depending on your specific interests and topic. We will support you in conducting robust empirical research and understanding the underlying technologies.

The thesis can be written in either English or German.

If you're intrigued by the evolving role of AI in politics, please get in touch with

Magdalena Heynicke

[magdalena.heynicke@uni-hamburg.de](mailto:magdalena.heynicke@uni-hamburg.de)

### Related Literature:

- Argyle, L. P., Bail, C. A., Busby, E. C., Gubler, J. R., Howe, T., Rytting, C., Sorensen, T., & Wingate, D. (2023). Leveraging AI for democratic discourse: Chat interventions can improve online political conversations at scale. *Proceedings of the National Academy of Sciences*, 120(41), e2311627120. <https://doi.org/10.1073/pnas.2311627120>
- Yin, Yidan, Nan Jia, and Cheryl J. Waksak. "AI Can Help People Feel Heard, but an AI Label Diminishes This Impact." *Proceedings of the National Academy of Sciences* 121, no. 14 (April 2, 2024): e2319112121. <https://doi.org/10.1073/pnas.2319112121>.
- Potter, Yujin, Shiyang Lai, Junsol Kim, James Evans, and Dawn Song. "Hidden Persuaders: LLMs' Political Leaning and Their Influence on Voters." *arXiv*, November 11, 2024. <https://doi.org/10.48550/arXiv.2410.24190>.
- Li, Lincan, Jiaqi Li, Catherine Chen, Fred Gui, Hongjia Yang, Chenxiao Yu, Zhengguang Wang, et al. "Political-LLM: Large Language Models in Political Science." *arXiv*, December 9, 2024. <https://doi.org/10.48550/arXiv.2412.06864>.