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## Article

# The Data-Creativity Nexus – Shaping the Future of Marketing in the Age of Artificial Intelligence

Marketing Review St.Gallen

## Provided in Cooperation with:

Universität St. Gallen, Institut für Marketing und Customer Insight

*Suggested Citation:* Hoffmann, Alexander; Kanbach, Dominik K.; Wykes-Sneyd, Thomas (2023) : The Data-Creativity Nexus – Shaping the Future of Marketing in the Age of Artificial Intelligence, Marketing Review St.Gallen, ISSN 1865-7516, Thexis Verlag, St.Gallen, Vol. 40, Iss. 6, pp. 14-20

This Version is available at:

<https://hdl.handle.net/10419/306250>

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# Marketing Review

## St.Gallen

Data and  
Creativity



### Schwerpunkt

Die Magie der Daten  
Gespräch mit Max Lederer,  
Jung von Matt AG

The Data-Creativity Nexus –  
Shaping the Future of Marketing  
in the Age of Artificial Intelligence

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# The Data-Creativity Nexus

Shaping the Future of Marketing  
in the Age of Artificial Intelligence

This study investigates the impact of artificial intelligence on marketing. Based on an extensive dataset of interviews with marketing executives, the study assesses current practices and argues that the future of marketing is inextricably linked to the effective integration of data and creativity. Thus, this research sheds light on this under-explored nexus.

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In recent years, the marketing landscape has been evolving at an unprecedented pace. This rapid transformation has been driven primarily by the proliferation of artificial intelligence (AI) and the resulting shift in the way businesses approach marketing. Central to this transformation are two key elements: data and creativity. Long seen as separate entities, the integration of data and creativity is now emerging as a pivotal driver of success in the digital age (Davenport, 2014).

The role of data in marketing has become increasingly important, with companies harnessing vast amounts of information to guide their marketing strategies (Braverman, 2015). Simultaneously, creativity remains a cornerstone of effective marketing, as it has the power to capture attention, evoke emotion, and ultimately influence consumer behavior (Sasser & Koslow, 2008). However, despite the growing importance of data and creativity, their intersection remains largely unexplored in the literature. Despite calls for deeper research into AI's role in enhancing marketing creativity (Huang & Rust, 2021; Korteling et al., 2021), a deeper understanding remains elusive.

This article seeks to explore this critical intersection, arguing that the future of marketing is inextricably linked to the effective integration of data and creativity. To this end, qualitative research was conducted by interviewing decision-makers to understand their current challenges and the level of data management integration within their organizations. The interview transcripts were then systematically and inductively analyzed using a streamlined coding process focused on the frequency of code mentions, to identify prevalent themes and insights.

The findings reveal a landscape where, despite significant progress in the use of data for marketing initiatives, there

is still considerable untapped potential in the integration of data and creativity. This paper, therefore, argues for a paradigm shift in marketing strategies, emphasizing the need to balance well-executed data integration with creative execution. In doing so, it provides a call to action for marketers to fully embrace the synergy between data and creativity to shape the future of marketing in an increasingly competitive digital landscape.

## Theoretical Background

This section examines the literature on AI's reshaping of marketing, the rise of data-driven marketing, and the enduring importance of creativity. These elements form an interconnected triad, in which AI and data enrich creative endeavors, and creativity, in turn, ensures that marketing remains both innovative and human-centric amidst rapid technological shifts.



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## Marketing in the Age of AI

The advent of AI has fundamentally altered the marketing landscape. In the wake of these changes, it has been argued that the marketing discipline should not simply react to AI advances but rather take an active role in shaping them and thereby harnessing them to significant advantage (Davenport et al., 2020). AI has the potential to automate and optimize a range of marketing activities, providing insights from data that humans on their own could not extract (Norvig & Russell, 2021). This digital revolution has created new opportunities for personalization, segmentation, and targeted communication, enabling increasingly sophisticated and effective marketing strategies (Columbus, 2019; Deveau et al., 2023).

## Data-Driven Marketing

The availability and effective utilization of data have catalyzed a transition to data-driven decision-making in marketing, leading to personalized and effective

strategies (Braverman, 2015; Provost & Fawcett, 2013). This transition enables marketers to understand and respond quickly to customer behavior, improving customer acquisition, retention, and profitability. It also presents significant challenges, especially in the areas of leadership, human resource development, and fostering a data-embracing organizational culture (Korherr et al., 2022a). Notably, this data-driven marketing landscape has served as a critical precursor to the successful integration of AI into marketing, enabling AI systems to learn, predict, and make intelligent decisions that transform marketing strategies.

## Creativity in Marketing

In parallel with these technological advances, the role of creativity in marketing remains crucial (Erevelles et al., 2016). Creativity has long been recognized as a key differentiator in creating effective advertising (Amabile, 1983; Sasser & Koslow, 2008), as it helps capture consumers' attention, enhances recall, and influences purchasing decisions (Smith et al., 2008). Thus, despite the increasing focus on data, creativity still plays an integral role in branding, differentiating products in a crowded marketplace and fostering brand loyalty (Porter & Claycomb, 1997).

## Integrating Data and Creativity

The nexus of data and creativity in marketing is a growing area of interest in academic research. Integrating data-driven insights with creative intuition can enhance marketing effectiveness, creating a synergistic relationship where each element strengthens the other (Davenport, 2014). However, striking a balance between the two is crucial; over-reliance on data and knowledge could risk stifling creativity, potentially hampering innovation in marketing strategies (Erevelles et al., 2016; Smithson, 1985; Smithson, 2008).

## Methodology

A qualitative research approach was adopted to explore the role of data and creativity in the marketing strategies of leading online companies. Recognizing that expert interviews are especially suited to explorative research in novel fields and under-researched areas (Marschan-Piekkari & Welch, 2004), they served as the primary data collection method.

Consequently, 18 expert interviews were conducted with senior executives of the largest online lead generation companies (OLGC), using their insights to navigate this relatively uncharted territory. These executives were selected for interviews based on their management or leadership positions within their respective organizations (e.g., Chief Marketing Officer or Head of Marketing), meaning that they each play a key role in driving analytical change (Korherr et al., 2022b). Our recruitment strategy primarily used professional networks and also included direct invitations based on trusted recommendations. The companies in this study represent a diverse cross-section of the online lead generation market, with geographical representation from many European countries and industries such as energy, retail, banking, financial services and insurance, and home appliances. In terms of revenue, many of these companies fall into the €25–50 million per annum range, with several enterprises even exceeding €100 million, indicating a wide range of business sizes in the lead generation industry. It is im-

portant to note, however, that comprehensive revenue data was only available for some participants. While this study does not represent the entire online lead management market, the curated selection of interview participants provides comprehensive and representative coverage of most key industry verticals.

A semi-structured interview guide was developed to cover critical areas (e.g., data management) while still allowing flexibility for emerging themes such as creativity. The interview guide included questions designed to elicit information about the current marketing-related challenges facing these executives and the level of data management proficiency within their companies. Each 30–45 minute interview was transcribed verbatim. These transcripts, the primary data source, were subjected to a coding process using a qualitative data analysis tool. This allowed for the categorization of the interviewees' statements according to Mayring's methodology (Mayring, 2010). A streamlined coding process focusing on the frequency of code mentions was used to identify patterns, key themes, and best practices. This inductive approach provided us with a nuanced understanding of how the largest OLGCs in European countries approach data management and creativity in marketing.

## Findings

Insights were derived from structured keyword searches and codings of the

### Management Summary

This article explores the intersection of data and creativity in the digital marketing landscape. Through expert interviews, the research reveals the complexities of data management, highlighting both challenges and opportunities at each stage of the data lifecycle, from collection to activation. It promotes a paradigm shift in marketing, emphasizing the importance of integrating data with creativity for competitive digital marketing in the age of artificial intelligence.



transcripts, with a focus on the most frequently mentioned topics throughout the data management process (figure 1).

Regarding data management, a substantial majority of the respondents identified the proper use of data as very or extremely relevant for revenue growth. However, most interviewees were only somewhat satisfied with the current state of their company's data management practices. Furthermore, there was no consensus on the importance ranking of the three phases of data management. For some, data preparation was seen as the most critical phase, with the view that understanding, modeling, and classifying data in the best possible way is vital to effective marketing and revenue growth. They noted that data collection is often facilitated by existing systems (e.g., media-buying platforms), reducing its relative importance. Others placed a greater emphasis on data activation, arguing that applying insights derived from data to support marketing and customer relationship management is paramount for return on investment. Another group of respondents claimed that data collection needs priority due to the increasing challenges associated with tightening data protection regulations. They stressed that poor data collection practices could create a weak foundation for subsequent phases. Several interviewees also noted the interconnected nature of all phases, suggesting that the effectiveness of one phase often depends on the success of the others. Despite the different rank-

### Main Propositions

- As AI transforms marketing, this study highlights the intertwined roles of data and creativity.
- The lifecycle of data presents various challenges, from collection to activation.
- Regulatory hurdles, especially GDPR, challenge first-party data collection.
- The role of creatives in AI-centric marketing remains undervalued and underexplored.
- Balancing AI insights with human creativity is pivotal for optimal marketing outcomes.

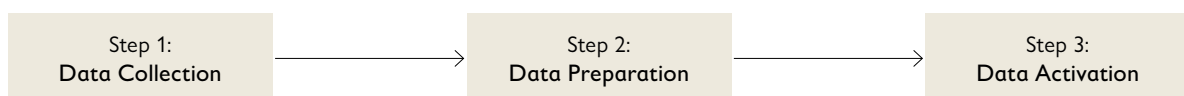
ings, there was a consensus that all three phases contribute to corporate revenue growth and marketing success.

## Data Collection

In our analysis of interviewee responses, we identified the main obstacles in first-party data collection and the practices companies have implemented to overcome these challenges. These are ranked below by frequency of mention:

- Regulatory constraints:** This was the most frequently mentioned obstacle as companies grapple with stringent data protection regulations (e.g., GDPR). However, some proactive organizations (e.g., in the financial services sector) have established dedicated legal and compliance teams or invested in privacy-focused data management platforms to ensure that their data collection procedures remain within the confines of the law.
- Business model constraints:** Some companies, especially retailers, have found their business model to be a barrier to effective first-party data collection, especially those with limited returning users or those operating on a cost-per-click model (i.e., due to limited data collection opportunities). In response, some businesses have integrated loyalty programs to foster user retention and data sharing, while others have ventured into alternative monetization models that offer richer data collection opportunities.
- Harmonization issues and technical capabilities:** Many interviewees pointed to harmonization issues and integration challenges due to different tracking tools and data formatting schemes and structures. To overcome these technical barriers, companies have turned to unified data management solutions, middleware, or partnerships with technical experts specializing in data integration.

Figure 1: Data Management Process



Source: Own illustration.

- (4) Multi-stakeholder coordination: Several respondents identified coordinating the efforts of diverse technical, marketing, and support teams as a significant challenge. To improve this multi-stakeholder coordination, companies have established cross-functional committees and task forces to ensure consistent alignment. Additionally, the introduction of regular inter-departmental workshops and training sessions has been effective in streamlining processes and fostering collaboration.

## Data Preparation

The examination of data preparation approaches reveals a diverse set of practices with discernible patterns of commonality.

The first approach to consider is sales data-based modeling. Regardless of the specific industry vertical in which they operate, most companies incorporate either binary sales outcomes (yes/no) or sales value data into their modeling strategies. This reliance on sales data is not just a mere preference, it is fundamental. Sales data is essential for training marketing algorithms, especially their reward functions. These algorithms include, but are not limited to, the bidding algorithms commonly employed across marketing platforms (e.g., search engine advertising platforms). The significance of sales data lies in its direct impact on the efficiency and accuracy of these algorithms, ensuring that they operate at their optimum.

Alongside sales data, a strong emphasis is placed on additional first-party data, such as behavioral and contextual data. Numerous companies are using proprietary data for modeling, which reduces dependence on third-party sources and provides a more detailed understanding of user behavior, enabling more sophisticated marketing and business strategies. Some companies were observed

to be creative in actively exploring the inclusion of attitudinal and intent data into their models to gain a more holistic understanding of their customer base.

Product ranking and recommendation models and customer lifetime value modeling were also found to be widely adopted. These approaches aim to improve product visibility, target audiences more effectively, and predict the total value a customer will generate over their lifetime with a company. Only a few respondents indicated that they did not engage in modeling, suggesting potential areas for future growth.

To lead in the next marketing era, teams must recalibrate their approach to data, embracing creativity within it.

In conclusion, while data preparation practices vary, most companies, regardless of their specific industry, employ a similar range of approaches to sales, audience, and supplementary first-party data. Such strategies are pivotal for businesses to comprehend their customer base, improve product visibility, and make informed strategic decisions. The increasing emphasis on first-party data and the integration of multiple data types represent an ongoing evolution in the industry's approach to data preparation.

## Bridging Data Gaps

The research into how organizations deal with data gaps produced some remarkable results. Most respondents reported that they have to deal with inconsistent third-party data from external partners and employ various strategies such as custom scripts, API collectors, and in-house

alternatives to address these challenges. In a different approach, some respondents reported that they minimized this issue by prioritizing direct data collection from their own platforms, thereby reducing reliance on partners and the associated data gaps. However, technical difficulties often compound the challenge of managing data gaps. The availability of cookies and user journey tracking issues are notable barriers. To overcome these hurdles, many participants resort to extrapolation methods to fill existing data gaps, albeit at the cost of some accuracy. Intriguingly, a select group of advanced companies reported minimal concerns about data gaps. These firms, which are particularly efficient at collating audience data, attribute this to their ability to successfully synchronize user IDs provided by partners with their own data.

In conclusion, while many companies are actively developing strategies to manage data gaps, partner data inconsistencies and technical hurdles remain major challenges, indicating that this area requires further attention.

## Data Activation

Responses on data activation and its alignment with best practices vary widely. Several respondents expressed satisfaction with their current practices, actively using first-party and third-party data insights for media buying and leveraging the capabilities of external marketing platforms. Some companies have sophisticated data activation mechanisms in place to refine bidding strategies. However, these are often hampered by data quality issues, such as cookie consent tracking, leading to data inputs that are considered suboptimal for use.

Despite these achievements, there was a broad consensus that there remains room for improvement, with many calling for better data usage in conjunction with more robust data preparation models,

which could prove critical to translating data science into business decisions. Moreover, the limitations of existing tools (e.g., such as those offered by marketing platforms) and the scarcity of certain types of data were cited as ongoing challenges. For instance, some respondents noted that bidding algorithms have significant improvement potential, while others expressed concerns about the limited availability of third-party data for online media campaigns. In these scenarios, the ability to fully activate data and align it with best practices is significantly hampered. The importance of embedding data-driven decision-making into the wider business process and innovation chain was also highlighted, with an explicit focus on securing buy-in from the management board.

Finally, some respondents expressed satisfaction with their current performance but acknowledged that there was room for improvement, particularly in targeting the right customers (i.e., using audience data). Despite the range of views, there is a consensus among the responses that underlines the pivotal role of data activation as the culminating point in the data lifecycle. Respondents emphasized that the success of this final step is critically dependent on efficient data collection and preparation, highlighting the need for continual improvement.

## Unveiling the Role of Creativity

An under-researched area within the lead generation landscape is the role of creativity. The analysis reveals intriguing findings about the interaction between creativity and various stages of the data management process, predominantly during data collection and data preparation but also during marketing ad design.

In the data collection phase, while often seen as a technical endeavor, traces of creativity emerged in the types of data gathered. Notably, some interviewees

highlighted the inventive collection of attitudinal data, including motivations, opinions, and preferences. This underscores the importance of creative discernment in identifying valuable data for marketing.

Other elements of creativity were evident in the data preparation phase, especially in data modeling. For instance, some interviewees discussed their creative application of predictive modeling (i.e., to score leads) (Harding, 2017). The use of automated ranking and recommendation systems based on neural networks was another distinguishing feature of some well-known lead generation companies. These systems analyze user behavior and establish correlations with multiple variables to provide a personalized offer ranking, replacing manual work with advanced, automated processes.

Another innovative application of predictive modeling was the predictive use of various data points (e.g., the size of the first deposit, frequency of deposits, and country of origin) to predict a customer's lifetime value. This shows that, despite the technical nature of data preparation,

there is considerable scope for creativity in how data is managed and interpreted.

## The Role of Creatives in an AI-dominated Landscape

When reviewing the findings from the dataset, there is one conspicuous absence. Despite the wide range of topics discussed, from the technical nuances of machine learning to the organizational challenges of talent management, the respondents largely overlooked one critical component of digital marketing: creatives. Serving as key consumer touchpoints, creatives (e.g., digital advertisements, images, videos) are as consequential as data analysis and targeting capabilities, driving engagement and conversions through emotional resonance and storytelling.

This oversight, possibly the result of a growing industry-wide bias towards data and AI, suggests that the crucial role of creatives is underestimated. This should be considered a major strategic blind spot because, in the context of AI, creatives are not static elements; they can be dynam-

### Lessons Learned

- 1 Embrace the synergy between data and creativity, recognizing their combined potential in shaping the future of digital marketing.
- 2 Prioritize the integration of data-driven insights with creative intuition, ensuring a balanced approach that doesn't stifle innovation.
- 3 Acknowledge the pivotal role of creatives in AI-driven marketing and ensure they remain central in strategic discussions.
- 4 Continually recalibrate strategies to address the evolving challenges and opportunities of data collection, especially in the face of regulatory constraints.
- 5 Recognize the transformative potential of AI in the creative process, but also understand its limitations and emphasize the irreplaceable value of human creativity.



ically adapted to individual preferences, enhancing their effectiveness. Moreover, despite AI's ability to inform the creative process, it cannot ultimately replace human creativity, meaning that a balanced approach that leverages both AI and human creativity would be optimal for improving marketing results. The current neglect of creatives implies an opportunity for a reorientation that recognizes their essential role and ensures that they remain central in strategic discussion.

## Discussion and Suggestions for Future Research

This research explored the intricate relationship between data collection, preparation, activation, and the often overlooked component of creativity in

AI-driven digital marketing. It uncovered several key insights, but, as with all research, it also raises new questions and identifies areas ripe for future investigation.

The findings underscore the complex nature of data, with distinct opportunities and challenges present at each stage of the lifecycle, from collection to activation. Future research could not only delve deeper into each stage but also investigate the ripple effects of how improvements at one stage, such as data preparation, affect subsequent stages.

The study also touched on the regulatory dimensions of data management, which warrant further investigation. The digital marketing landscape is dynamic, with its regulatory environment in constant flux. Ongoing research is essential to keep pace with these changes and

grasp their implications for businesses and consumers.

A significant gap identified by our research is the industry's neglect of the role of creatives in an AI-centric environment. The potential for AI to enhance the creative process is an underexplored domain. Future research should explore how AI can foster more personalized, compelling creatives and identify potential inherent limitations.

In conclusion, while this research has illuminated critical aspects of AI in marketing, the field remains vast and fertile for further investigation. Continuing to bridge the intersection of data and creativity will illuminate the way forward and usher in a new era of AI-enhanced marketing that is not only data-informed but also deeply creative, setting the stage for a transformative future. ■

## References

- Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, 45(2), 357–376. <https://psycnet.apa.org/doi/10.1037/0022-3514.45.2.357>
- Braverman, S. (2015). Global review of data-driven marketing and Advertising. *Journal of Direct, Data and Digital Marketing Practice*, 16(3), 181–183. <http://dx.doi.org/10.1057/ddmp.2015.7>
- Columbus, L. (2019, July 7). 10 charts that will change your perspective of AI in marketing. *Forbes Magazine*. <https://www.forbes.com/sites/louiscolumnbus/2019/07/07/10-charts-that-will-change-your-perspective-of-ai-in-marketing/>
- Davenport, T. H. (2014). How strategists use “Big Data” to support internal business decisions, discovery and production. *Strategy & Leadership*, 42(4), 45–50. <http://dx.doi.org/10.1108/SL-05-2014-0034>
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24–42. <http://dx.doi.org/10.1007/s11747-019-00696-0>
- Deveau, R., Griffin, S. J., & Reis, S. (2023, May 11). AI-powered marketing and sales reach new heights with generative AI. McKinsey & Company. <https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/ai-powered-marketing-and-sales-reach-new-heights-with-generative-ai>
- Erevelles, S., Fukawa, N., & Swayne, L. (2016). Big data consumer analytics and the transformation of marketing. *Journal of Business Research*, 69(2), 897–904. <https://doi.org/10.1016/j.jbusres.2015.07.001>
- Harding, K. (2017). AI & machine learning for predictive lead scoring. Objective. <https://objectiveit.com/blog/use-ai-and-machine-learning-for-predictive-lead-scoring/>
- 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. <http://dx.doi.org/10.1177/1094670520902266>
- Korherr, P., Kanbach, D. K., Kraus, S., & Jones, P. (2022a). The role of management in fostering analytics: The shift from intuition to analytics-based decision-making. *Journal of Decision Systems*. <http://dx.doi.org/10.1080/12460125.2022.2062848>
- Korherr, P., Kanbach, D. K., Kraus, S., & Mikalef, P. (2022b). From intuitive to data-driven decision-making in digital transformation: A framework of prevalent managerial archetypes. *Digital Business*, 2(2). <https://doi.org/10.1016/j.digbus.2022.100045>
- Korteling, J. E. H., van de Boer-Visschedijk, G. C., Blankendaal, R. A. M., Boonekamp, R. C., & Eikelboom, A. R. (2021). Human- versus artificial intelligence. *Frontiers in Artificial Intelligence*, 4. <https://doi.org/10.3389/frai.2021.622364>
- Marschan-Piekkari, R., & Welch, C. (2004). Qualitative research methods in international business: The state of the art. In E. Elgar (Ed.), *Handbook of qualitative research methods for international business* (pp. 5–24). Edward Elgar Publishing.
- Mayring, P. (2010). Qualitative Inhaltsanalyse. In G. Mey & K. Mruck (Eds.), *Handbuch Qualitative Forschung in der Psychologie* (pp. 601–613). VS Verlag für Sozialwissenschaften.
- Norvig, P., & Russell, S. (2021). *Artificial intelligence: A modern approach* (4th ed.). Pearson.
- Porter, S. S., & Claycomb, C. (1997). The influence of brand recognition on retail store image. *Journal of Product & Brand Management*, 6(6), 373–387. <https://doi.org/10.1108/10610429710190414>
- Provost, F., & Fawcett, T. (2013). Data science and its relationship to big data and data-driven decision making. *Big Data*, 1(1), 51–59. <https://doi.org/10.1089/big.2013.1508>
- Sasser, S. L., & Koslow, S. (2008). Desperately seeking advertising creativity: Engaging an imaginative “3Ps” research agenda. *Journal of Advertising*, 37(4), 5–20.
- Smith, R. E., Chen, J., & Yang, X. (2008). The impact of advertising creativity on the hierarchy of effects. *Journal of Advertising*, 37(4), 47–62. <http://dx.doi.org/10.2753/JOA0091-3367370404>
- Smithson, M. (1985). Toward a social theory of ignorance. *Journal for the Theory of Social Behaviour*, 15(2), 151–172. <http://dx.doi.org/10.1111/j.1468-5914.1985.tb00049.x>
- Smithson, M. J. (2008). Social theories of ignorance. In R. N. Proctor & L. Schiebinger (Eds.), *Agnology: The making and unmaking of ignorance* (pp. 209–229). Stanford University Press.