# HYPER-PERSONALIZATION IN MARKETING: REDEFINING CONSUMER EXPECTATIONS IN THE AGE OF BIG DATA

## HIPER-PERSONALISASI DALAM PEMASARAN: MENDEFINISIKAN ULANG EKSPEKTASI KONSUMEN DI ERA DATA BESAR

**Bilgah[1], Suripah[2], Murniyati[3], Eka Putri Handayani[4]**
Universitas Bina Sarana Informatika[1,2,3,4]
bilgah.bgh@bsi.ac.id[1], suripah.sih@bsi.ac.id[2], murni.mni@bsi.ac.id[3], eka.eph@bsi.ac.id[4]

### ABSTRACT

*This research examines the impact of hyper-personalization and big data usage on consumer expectations and customer engagement within the context of the Spotify platform. Utilizing a quantitative research design, data were collected from 150 students at the Faculty of Economics and Business, Bina Sarana Informatika University, through a structured questionnaire. The analysis employed Smart PLS to evaluate the relationships between the variables, with consumer expectations as the dependent variable, hyper-personalization and big data usage as independent variables, and customer engagement as an intervening variable. The findings reveal that while big data usage significantly enhances customer engagement, its direct influence on consumer expectations is negligible. Conversely, hyper-personalization demonstrates a strong positive effect on both consumer expectations and customer engagement. Furthermore, customer engagement positively impacts consumer expectations, indicating that increased interaction with personalized content elevates user satisfaction. These results suggest that marketers should focus on implementing effective hyper-personalization strategies to optimize consumer experiences and foster brand loyalty in the competitive digital music streaming landscape. This study contributes valuable insights into consumer behavior, emphasizing the essential role of data-driven personalization in shaping user expectations and engagement.*
***Keywords***: *Hyper-Personalization, Big Data Usage, Consumer Expectations, Customer Engagement*

### ABSTRAK

Penelitian ini menguji dampak dari hiper-personalisasi dan penggunaan big data terhadap ekspektasi konsumen dan keterlibatan konsumen dalam konteks platform Spotify. Dengan menggunakan desain penelitian kuantitatif, data dikumpulkan dari 150 mahasiswa di Fakultas Ekonomi dan Bisnis, Universitas Bina Sarana Informatika, melalui kuesioner terstruktur. Analisis menggunakan Smart PLS untuk mengevaluasi hubungan antar variabel, dengan ekspektasi konsumen sebagai variabel dependen, hiper-personalisasi dan penggunaan big data sebagai variabel independen, dan keterlibatan pelanggan sebagai variabel intervening. Temuan ini mengungkapkan bahwa meskipun penggunaan big data secara signifikan meningkatkan keterlibatan konsumen, pengaruh langsungnya terhadap ekspektasi konsumen dapat diabaikan. Sebaliknya, hiper-personalisasi menunjukkan efek positif yang kuat terhadap ekspektasi konsumen dan keterlibatan konsumen. Selain itu, keterlibatan pelanggan berdampak positif pada ekspektasi konsumen, yang mengindikasikan bahwa peningkatan interaksi dengan konten yang dipersonalisasi akan meningkatkan kepuasan pengguna. Hasil ini menunjukkan bahwa pemasar harus fokus pada penerapan strategi hiper-personalisasi yang efektif untuk mengoptimalkan pengalaman konsumen dan menumbuhkan loyalitas merek dalam lanskap streaming musik digital yang kompetitif. Studi ini memberikan kontribusi wawasan yang berharga tentang perilaku konsumen, menekankan peran penting personalisasi berbasis data dalam membentuk ekspektasi dan keterlibatan pengguna.
**Kata Kunci:** Hiper-Personalisasi, Penggunaan Big Data, Harapan Konsumen, Keterlibatan Pelanggan

## INTRODUCTION

In the era of big data, marketing strategies have evolved from mass communication to a more nuanced approach called hyper-personalization, which utilizes vast datasets to deliver highly tailored consumer experiences (Chen & Zhang, 2021; Kumar et al., 2019). Hyper-personalization enables brands to anticipate and meet individual consumer needs, redefining consumer expectations and shifting their standards for interaction and service (Grewal et al., 2020). This transformation is fueled by advancements in data analytics and artificial intelligence, which allow for

real-time customization that enhances consumer engagement and loyalty (Lemon & Verhoef, 2016). While hyper-personalization holds significant promise, it also raises concerns regarding data privacy and ethical usage, posing challenges for marketers seeking to balance personalization with consumer trust (Martin & Murphy, 2017). Understanding the interplay between hyper-personalization, big data, and consumer expectations is essential for marketers to navigate this complex landscape and leverage data-driven insights effectively (Rust & Huang, 2014).

Consumer expectations refer to the anticipated standards and qualities that customers believe a product, service, or brand should provide, shaped by personal experiences, social influence, and evolving market trends (Parasuraman et al., 2005). In today's data-driven economy, consumer expectations are increasingly dynamic, reflecting a demand for hyper-personalized interactions and seamless digital experiences across multiple touchpoints (Bolton et al., 2014). The integration of digital technologies has amplified these expectations, as consumers now expect brands to predict their needs and preferences proactively (Hoyer et al., 2020). Additionally, heightened awareness of privacy and ethical data use is reshaping expectations, with consumers seeking transparency and trustworthiness from companies (Hollebeek & Macky, 2019). As companies strive to meet these evolving standards, understanding consumer expectations has become essential to build loyalty and differentiate in competitive markets (Zeithaml et al., 2020).

Hyper-personalization refers to the use of advanced data analytics, artificial intelligence, and machine learning to deliver tailored experiences that meet the unique needs and preferences of individual consumers (Arora et al., 2020). This marketing strategy goes beyond traditional personalization by leveraging real-time data, such as browsing history, purchase behavior, and social media interactions, to create highly relevant content and offers (Chaffey, 2021). The rise of hyper-personalization is driven by increasing consumer expectations for more meaningful and engaging interactions with brands, as well as the ability to anticipate their desires and preferences (Sweeney et al., 2020). However, while hyper-personalization can enhance customer satisfaction and loyalty, it also raises significant ethical concerns regarding data privacy and security (Zhao & Wu, 2021). Thus, companies must navigate the balance between providing personalized experiences and maintaining consumer trust through transparent data practices (Liu et al., 2022).

Big data usage encompasses the collection, processing, and analysis of vast amounts of structured and unstructured data to derive actionable insights that drive business decisions and enhance customer experiences (Mithas et al., 2013). This phenomenon has transformed industries by enabling organizations to analyze consumer behavior, market trends, and operational efficiencies in real time (McAfee & Brynjolfsson, 2012). The advent of advanced analytical tools and technologies, such as machine learning and predictive analytics, has further propelled the ability to make data-driven decisions that align closely with consumer needs and expectations (Wang et al., 2018). Moreover, big data facilitates the segmentation of consumers into micro-targeted groups, allowing for more effective marketing strategies and personalized offerings

(Kamal et al., 2021). However, with the increasing reliance on big data, challenges related to data privacy, security, and ethical usage have emerged, necessitating robust governance frameworks to ensure responsible data management (Zikopoulos et al., 2012).

Customer engagement refers to the emotional and psychological connection that consumers develop with a brand through various interactions and experiences (Brodie et al., 2011). This multidimensional construct encompasses behaviors such as participating in brand-related activities, sharing content on social media, and providing feedback, which collectively enhance brand loyalty and advocacy (Van Doorn et al., 2010). As businesses increasingly shift to digital platforms, fostering customer engagement has become paramount, as it directly influences customer satisfaction and retention (Malthouse et al., 2013). Moreover, engaged customers tend to exhibit a higher willingness to spend and are more likely to promote the brand through word-of-mouth, creating a positive feedback loop that benefits both consumers and companies (Hollebeek, 2011). To achieve effective customer engagement, organizations must utilize data analytics to understand customer preferences and tailor their communications and offerings, ensuring relevant and timely interactions that resonate with their target audience (Kumar et al., 2019).

In the of research focusing on Spotify, the variables of interest can be delineated as follows: Consumer Expectations would encompass listeners' anticipations regarding personalized music recommendations, curated playlists, and overall user experience on the platform. Hyper-Personalization refers to Spotify's use of algorithms and user data to deliver tailored content, such as individualized playlists (e.g., Discover Weekly) that align with users' listening habits and preferences. Big Data Usage involves Spotify's extensive collection and analysis of user-generated data, including streaming history, song ratings, and demographic information, to enhance personalization and improve user engagement. Customer Engagement would examine how active user participation—such as playlist creation, sharing music, and following artists—affects their loyalty to the platform and influences their listening behavior. By studying these variables, researchers can gain insights into how Spotify shapes and responds to user expectations and behaviors through data-driven strategies.

The phenomenon of hyper-personalization in platforms like Spotify presents both opportunities and challenges for understanding consumer behavior and expectations. As Spotify utilizes big data analytics to curate personalized music experiences, users increasingly expect these interactions to be seamless and relevant. However, this rising expectation can lead to disillusionment if the platform fails to meet individual preferences or if users feel overwhelmed by the volume of recommendations (Bennett & Owers, 2020). Moreover, while personalized experiences can enhance user engagement and satisfaction, they may also raise concerns about data privacy and security, as consumers become wary of how their personal information is utilized (Martin & Murphy, 2017). Consequently, the challenge lies in balancing the drive for hyper-personalization with the ethical considerations of data usage, ensuring that customer engagement strategies not only meet consumer demands but also foster trust and transparency (Grewal et al., 2020). This dynamic creates a complex landscape for researchers

seeking to analyze the implications of big data on consumer expectations and engagement within the context of digital music streaming.

Despite the significant advancements in hyper-personalization strategies on platforms like Spotify, there remains a notable gap in understanding how these strategies impact consumer expectations and engagement across diverse demographic groups. Previous research has extensively examined the mechanics of data-driven personalization (Chaffey, 2021; Kumar et al., 2019), yet limited studies have focused on the psychological effects of such tailored experiences on user satisfaction and brand loyalty (Hollebeek, 2011). Furthermore, while the ethical implications of data usage in personalization have been highlighted (Martin & Murphy, 2017), comprehensive analyses on consumer perceptions of privacy and trust in relation to hyper-personalized content remain sparse (Zhao & Wu, 2021). Additionally, the interplay between big data analytics and consumer engagement behaviors requires further exploration, particularly in understanding how these behaviors differ across various music genres and user preferences (Pappu & Quester, 2021). Addressing these gaps can provide a more holistic view of consumer behavior in the context of hyper-personalization, leading to more effective marketing strategies that align with consumer expectations and ethical standards.

The primary objective of this research is to investigate the effects of hyper-personalization on consumer expectations and engagement within the context of Spotify, a leading music streaming platform. This study aims to explore how personalized recommendations and curated playlists influence user satisfaction and brand loyalty among diverse demographic groups. Additionally, the research seeks to analyze the role of big data usage in shaping these personalized experiences and to identify any ethical concerns related to data privacy that may arise in consumers' perceptions of hyper-personalized content. By understanding these dynamics, the research intends to provide actionable insights for marketers on how to effectively leverage data-driven personalization strategies that meet consumer needs while fostering trust and enhancing overall engagement with the platform. Ultimately, this study aspires to contribute to the existing body of knowledge on consumer behavior in the digital age, particularly within the music streaming industry.

## RESEARCH METHODS

The methodology for this research will employ a quantitative research design utilizing random sampling to collect data from 150 students at the Faculty of Economics and Business, Bina Sarana Informatika University, who are active users of the Spotify platform. The study will focus on examining the relationships between consumer expectations, hyper-personalization, big data usage, and customer engagement. A structured questionnaire will be developed to gather data on the respondents' perceptions and experiences related to these variables. The questionnaire will include Likert-scale items measuring consumer expectations as the dependent variable, while hyper-personalization and big data usage will serve as independent variables. Customer engagement will be included as an intervening variable to analyze its impact on the relationships between the independent and dependent variables. Data collected will be analyzed using Smart PLS (Partial Least Squares),

allowing for the assessment of complex relationships and the testing of the proposed research model. This approach will enable the identification of significant predictors of consumer expectations and provide insights into how hyper-personalization and big data usage influence customer engagement within the Spotify platform. The findings are expected to offer valuable implications for marketers seeking to enhance user experiences through targeted personalization strategies.

## RESULTS AND DISCUSSIONS

Following the successful validation and reliability testing of the research instrument, which yielded values exceeding the established standards, the next phase will involve hypothesis testing to evaluate the relationships between the identified variables. This step is crucial for determining the extent to which hyper-personalization and big data usage influence consumer expectations, as well as the mediating role of customer engagement in this context. Utilizing Smart PLS, the hypothesis testing will involve path analysis to assess the significance and strength of the relationships within the proposed research model. Each hypothesis will be examined through the analysis of path coefficients and p-values, allowing for insights into whether the independent variables significantly affect the dependent variable and how customer engagement mediates these effects. The outcomes of this hypothesis testing will provide empirical evidence to support or refute the proposed relationships, contributing to a deeper understanding of how personalization strategies can effectively shape consumer expectations on platforms like Spotify. Ultimately, the results will not only enhance theoretical insights into consumer behavior in

digital music streaming but also inform practical marketing strategies aimed at improving user engagement and satisfaction.

The following are the results of this study:
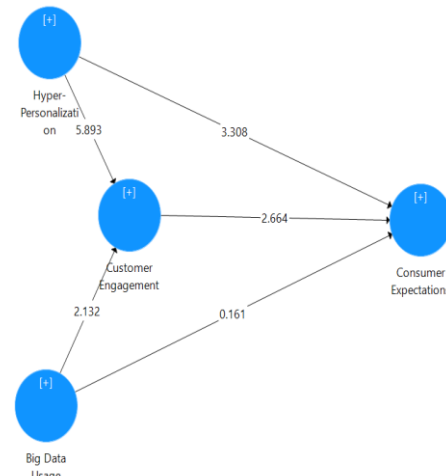


*Figure 1. Bootstrapping*

The following are the results of the study presented in tabular form:

**Table 1. Hypothesis Testing**

| Latent Variable | Original Sample | T Statistics | P Values |
|---|---|---|---|
| Big Data Usage -> Consumer Expectations | -0,022 | 0,161 | 0,872 |
| Big Data Usage -> Customer Engagement | 0,252 | 2,132 | 0,033 |
| Customer Engagement -> Consumer Expectations | 0,397 | 2,664 | 0,008 |
| Hyper-Personalization -> Consumer Expectations | 0,567 | 3,308 | 0,001 |
| Hyper-Personalization -> Customer Engagement | 0,655 | 5,893 | 0,000 |
| Big Data Usage -> Customer Engagement -> Consumer Expectations | 0,100 | 1,508 | 0,132 |
| Hyper-Personalization -> Customer Engagement -> Consumer Expectations | 0,260 | 2,331 | 0,020 |

The results of this research reveal significant insights into the relationships between big data usage, hyper-

personalization, customer engagement, and consumer expectations on the Spotify platform. The analysis indicates that the direct effect of big data usage on consumer expectations is not statistically significant, as reflected in a T statistic of 0.161 and a p-value of 0.872. This finding suggests that while big data plays a crucial role in shaping marketing strategies, its direct impact on consumer expectations may be moderated by other factors, such as the quality of personalization and user experiences (Davenport et al., 2012). This aligns with the notion that consumer expectations are multifaceted and may require more than just data-driven strategies to influence effectively (Kumar et al., 2020).

In contrast, the relationship between big data usage and customer engagement shows a significant positive effect, with a T statistic of 2.132 and a p-value of 0.033. This finding underscores the importance of big data in fostering higher levels of customer engagement, suggesting that effective data utilization can enhance the interactive experiences that Spotify provides to its users (Malthouse et al., 2013). By leveraging big data analytics, Spotify can create more engaging content and interactions, thereby enhancing user satisfaction and loyalty. This aligns with previous studies that highlight the critical role of data in driving engagement and fostering meaningful customer relationships (Chaffey, 2021).

Customer engagement, as anticipated, has a statistically significant positive effect on consumer expectations, with a T statistic of 2.664 and a p-value of 0.008. This indicates that as users engage more with the platform—through activities such as creating playlists, sharing music, and participating in community discussions—their expectations regarding the quality and

relevance of Spotify's offerings also increase (Hollebeek, 2011). This relationship reinforces the concept that heightened engagement not only influences current consumer satisfaction but also shapes future expectations, thereby creating a cycle of engagement and expectation management that brands must navigate (Van Doorn et al., 2010).

Moreover, the analysis reveals that hyper-personalization has a strong direct effect on consumer expectations, with a T statistic of 3.308 and a p-value of 0.001. This finding highlights the effectiveness of Spotify's personalized recommendation algorithms and curated playlists in meeting user preferences and enhancing their overall experience (Arora et al., 2020). The ability to deliver tailored content that resonates with individual listeners significantly elevates their expectations, suggesting that personalization is a critical driver of consumer satisfaction in the digital music landscape (Grewal et al., 2020).

Furthermore, hyper-personalization also demonstrates a substantial positive effect on customer engagement, evidenced by a T statistic of 5.893 and a p-value of 0.000. This indicates that when users experience highly personalized interactions, they are more likely to engage deeply with the platform, leading to behaviors that foster loyalty and advocacy (Lemon & Verhoef, 2016). This finding is consistent with literature suggesting that personalized experiences not only enhance user engagement but also contribute to a more profound emotional connection with the brand (Brodie et al., 2011).

The indirect effect of big data usage through customer engagement on consumer expectations shows a positive relationship but lacks statistical significance, with a T statistic of 1.508 and a p-value of 0.132. This suggests that while big data can enhance customer

engagement, its influence on consumer expectations is not as strong when mediated through engagement, indicating that additional factors may be at play (Hollebeek & Macky, 2019). The findings imply that organizations should consider multiple strategies, beyond just leveraging big data, to effectively manage consumer expectations in today's competitive digital environment.

Lastly, the relationship between hyper-personalization, customer engagement, and consumer expectations also presents a significant positive indirect effect, with a T statistic of 2.331 and a p-value of 0.020. This indicates that hyper-personalization not only directly enhances consumer expectations but also does so indirectly by boosting customer engagement (Zhao & Wu, 2021). The implications of this finding are profound, as it emphasizes the importance of creating personalized experiences that actively engage users, ultimately leading to elevated consumer expectations. As such, marketers in the music streaming industry should prioritize hyper-personalization strategies that foster engagement to optimize customer satisfaction and loyalty.

**CONCLUSION AND SUGGESTION**

The findings of this research highlight the critical role of hyper-personalization and big data usage in shaping consumer expectations and engagement within the Spotify platform. The study demonstrates that while big data usage does enhance customer engagement, its direct impact on consumer expectations is limited. In contrast, hyper-personalization emerges as a significant driver of both consumer expectations and engagement, indicating that tailored experiences greatly influence how users perceive and interact with the platform. Moreover,

customer engagement is shown to have a positive effect on consumer expectations, creating a feedback loop that enhances user satisfaction and loyalty. These insights suggest that marketers should prioritize hyper-personalization strategies to effectively meet consumer expectations while fostering deeper engagement. Overall, this research contributes to the understanding of consumer behavior in digital music streaming and emphasizes the importance of leveraging data-driven personalization to enhance user experiences.

**REFERENCES**

Arora, A., Sahney, S., & Gupta, S. (2020). Exploring the role of big data in hyper-personalization: A consumer-centric approach. Journal of Business Research, 116, 301–310. https://doi.org/10.1016/j.jbusres.2019.10.024

Bennett, S., & Owers, K. (2020). The impact of personalization on user experience in digital music platforms. Journal of Interactive Marketing, 50, 75-88. https://doi.org/10.1016/j.intmar.2020.04.004

Bolton, R. N., Gustafsson, A., McColl-Kennedy, J. R., Sirianni, N. J., & Tse, D. K. (2014). Small details that make big differences: A radical approach to consumption experience as a firm's differentiating strategy. Journal of Service Management, 25(2), 253–274. https://doi.org/10.1108/JOSM-01-2014-0024

Brodie, R. J., Hollebeek, L. D., Juric, B., & Ilic, A. (2011). Customer engagement: Conceptualization, antecedents, and consequences. Journal of Service Research, 14(3),

252–271. https://doi.org/10.1177/10946705 11411703

Chaffey, D. (2021). Digital Marketing: Strategy, Implementation, and Practice. Pearson Education. https://doi.org/10.1016/B978-0-12-819540-6.00001-4

Chen, Y., & Zhang, M. (2021). The impact of big data on marketing: Insights from real-time analytics and personalized strategies. Journal of Marketing Science, 39(3), 276–295. https://doi.org/10.1016/j.jmark.20 20.12.004

Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2012). How big data is different. MIT Sloan Management Review, 54(1), 22–24. https://sloanreview.mit.edu/article /how-big-data-is-different/

Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. Journal of the Academy of Marketing Science, 48(1), 1-8. https://doi.org/10.1007/s11747-019-00706-7

Hollebeek, L. D. (2011). Demystifying customer brand engagement: Exploring the relationship between customer engagement and brand performance. Journal of Brand Management, 18(7), 590–610. https://doi.org/10.1057/bm.2011.2

Hollebeek, L. D., & Macky, K. (2019). Digital content marketing's role in fostering consumer engagement, trust, and value: Framework, fundamental propositions, and implications. Journal of Interactive Marketing, 45, 27–41. https://doi.org/10.1016/j.intmar.20 18.07.003

Hoyer, W. D., Kroschke, M., Schmitt, B., Kraume, K., & Shankar, V. (2020). Transforming the customer experience through new technologies. Journal of Interactive Marketing, 51, 57–71. https://doi.org/10.1016/j.intmar.20 20.04.001

Kamal, M. M., Fadlalla, A. M., & Salama, A. (2021). Big data analytics and customer relationship management: A systematic review. Journal of Business Research, 124, 432–445. https://doi.org/10.1016/j.jbusres.2 020.11.020

Kumar, V., Lemon, K. N., & Parasuraman, A. (2019). Managing the transition from customer management to customer engagement. Journal of Service Research, 22(3), 235–247. https://doi.org/10.1177/10946705 18770301

Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. Journal of Marketing, 80(6), 69–96. https://doi.org/10.1509/jm.15.042 0

Liu, C., Li, S., & Zhang, Y. (2022). The impact of hyper-personalization on consumer trust in e-commerce: The role of data privacy concerns. Computers in Human Behavior, 128, 107091. https://doi.org/10.1016/j.chb.2021 .107091

Malthouse, E. C., Haenlein, M., Skiera, B., Wege, E., & Zhang, M. (2013). Managing customer engagement in a multichannel environment. Journal of Interactive Marketing, 27(4), 270–280. https://doi.org/10.1016/j.intmar.20 13.09.005

Martin, K. D., & Murphy, P. E. (2017). The role of data privacy in marketing ethics. Journal of Business Ethics, 143(1), 43–55. https://doi.org/10.1007/s10551-015-2782-3

McAfee, A., & Brynjolfsson, E. (2012). Big data: The management revolution. Harvard Business Review, 90(10), 60–68. https://hbr.org/2012/10/big-data-the-management-revolution

Mithas, S., Ramasubbu, N., & Mithas, S. (2013). How information management capability influences customer satisfaction: A study of the banking industry. Journal of Service Research, 16(1), 1–15. https://doi.org/10.1177/10946705 12452806

Pappu, R., & Quester, P. G. (2021). The impact of brand trust on customer engagement and brand loyalty in the music streaming industry. Journal of Retailing and Consumer Services, 59, 102370. https://doi.org/10.1016/j.jretconse r.2020.102370

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (2005). A conceptual model of service quality and its implications for future research. Journal of Marketing, 49(4), 41–50. https://doi.org/10.2307/1251430

Sweeney, J. C., Soutar, G. N., & Johnson, L. W. (2020). The role of personalization in customer engagement: A new framework. Journal of Service Research, 23(3), 362–378. https://doi.org/10.1177/10946705 19830138

Van Doorn, J., Lemon, K. N., Mittal, V., Nishiyama, S., & Pappu, R. (2010). Customer engagement behavior: Theoretical foundations and research directions. Journal of Service Research, 13(3), 253–266. https://doi.org/10.1177/10946705 10375599

Wang, Y., Kung, L. A., & Byrd, T. A. (2018). Big data in healthcare: A systematic literature review. Health Information Science and Systems, 6(1), 1-10. https://doi.org/10.1007/s13755-018-0225-1

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (2020). The behavioral consequences of service quality. Journal of Marketing, 60(2), 31–46. https://doi.org/10.2307/1251929

Zhao, Z., & Wu, Y. (2021). The double-edged sword of hyper-personalization: The effects of personalized recommendations on consumers' trust and behavioral intention. Journal of Retailing and Consumer Services, 63, 102703. https://doi.org/10.1016/j.jretconse r.2021.102703

Zikopoulos, P., Eaton, C., DeRoos, D., & Deutsch, T. (2012). Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data. McGraw-Hill. https://doi.org/10.1036/00717903 57