Journal of Management Studies and Development
Vol. 4, No. 01, pp. 24-33
journal.iistr.org/index.php/JMSD
DOI: 10.56741/jmsd.v4i01.770

The Influence of ISO 9001: 2015 Quality Management System Implementation on Marketing Performance at PT Timah Tbk

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ARTICLE INFO

Article history
Received 3 December 2024
Revised 5 March 2025
Accepted 7 March 2025

Keywords
Competitive Advantage
ISO 9001:2015
Marketing Performance
Product Quality
Quality Management

ABSTRACT

This study evaluates how implementing the ISO 9001:2015 Quality Management System affects marketing performance and product quality at PT Timah Tbk. The company faced production fluctuations in 2023, leading to a sharp revenue decline and significant losses. Using a quantitative descriptive approach with a survey method, the research analyzes data from employees and management. The findings show that ISO 9001:2015 implementation positively impacts product quality (path coefficient = 0.9867) and quality management (path coefficient = 0.9036). The R-Square value indicates that ISO 9001:2015 explains 81.64% of product quality improvements, while product quality accounts for 97.38% of marketing performance changes. These results suggest that effective quality management through ISO 9001:2015 enhances marketing efficiency and strengthens customer trust, helping the company navigate competition in the tin industry.

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Introduction

Tin is a critical metal in the electronics industry, particularly in solder production. As one of the world's largest producers, Indonesia produced 52,000 tons of tin in 2023, a decrease

from 70,000 tons in 2022. This decline highlights the challenges in maintaining production standards, which are influenced by global market dynamics, weak demand, and illegal mining activities. PT Timah Tbk, a leading player in the industry, reported a loss of IDR 449.67 billion in 2023, starkly contrasting to the IDR 1.04 trillion profit in 2022. This loss was attributed to a 32.9% decrease in revenue, a 26% reduction in ore production and a 22.6% decline in tin metal output.

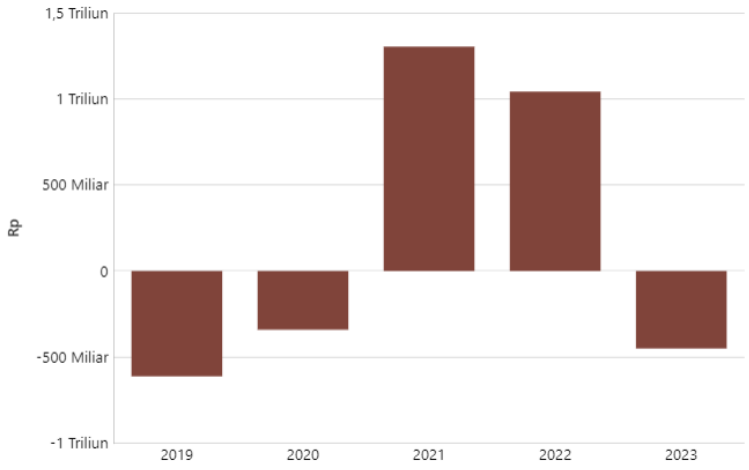


Fig. 1. Profit/Loss for the Fiscal Year of PT Timah Tbk (2019-2023)

Despite implementing the ISO 9001:2015 Quality Management System at PT Timah Tbk, production fluctuations from 2019 to 2023 highlight operational efficiency and quality consistency challenges. For instance, tin metal production in the Riau Islands peaked at 2,818 metric tons in 2020, but sharply declined to 2,175 metric tons in 2022, before slightly recovering to 2,220 metric tons in 2023. This decline in quality and production volume has affected the marketing strategy, which needs to adapt to production fluctuations, leading to decreased customer trust and company revenue.

The Quality Management System can significantly enhance marketing efficiency by streamlining processes, improving customer satisfaction, and fostering a culture of continuous improvement. Integrating the Quality Management System into marketing operations ensures that marketing activities are aligned with organizational goals and customer expectations, resulting in more effective and efficient marketing strategies. The Quality Management System provides a structured framework that helps organizations standardize their marketing processes, leading to more consistent and reliable marketing outcomes. This standardization reduces errors and inefficiencies, allowing marketing teams to focus on strategic activities rather than operational issues [1].

By ensuring that marketing processes are well-documented and consistently followed, the Quality Management System can enhance the predictability and reliability of marketing outcomes, which is crucial for building and maintaining customer trust [2]. The Quality Management System emphasizes customer satisfaction as a core component, directly impacting marketing efficiency. By systematically collecting and analyzing customer feedback, organizations can adjust their marketing strategies to better meet customer needs and preferences, thereby improving the effectiveness of marketing campaigns [3]. This customer-centric approach not only increases marketing efficiency but also boosts brand loyalty and customer retention, which are essential for long-term success [4]. The continuous improvement aspect of the Quality Management System encourages marketing teams to regularly evaluate and refine their strategies based on performance data and market trends. This proactive approach allows organizations to quickly adapt to changes in the market environment, ensuring that marketing efforts remain relevant and effective [5].

ISO 9001:2015 is an international standard for quality management systems that focuses on enhancing customer satisfaction through continuous improvement and compliance with regulations. In industries such as mining, exemplified by PT Timah Tbk, implementing this standard helps improve operational efficiency, ensures adherence to quality standards, and provides product quality assurance [6]. Consistent product quality is critical to extending service life, reducing environmental impact, and meeting customer expectations, all of which contribute to the company's operational sustainability [7].

The implementation of ISO 9001:2015 at PT Timah has had a positive impact on marketing performance by supporting strategies to enhance sales and customer trust through guaranteed product quality. This system enables PT Timah to be more competitive in both domestic and global markets by prioritizing quality as a core value [8]. his study is crucial for evaluating the effectiveness of ISO 9001:2015 implementation in addressing the challenges of production fluctuations and declining marketing performance experienced by PT Timah from 2019 to 2023.

Literature Review

Quality Management Management, in general, is the process of decision-making aimed at achieving organizational goals through the effective and efficient use of resources. According to Follett, management creates order from chaos, while Terry views it as guiding a group towards clear objectives. Griffin defines management as the process of designing, organizing, and controlling resources to achieve goals with high efficiency [8]. In the contemporary business landscape, quality management has evolved beyond internal processes to encompass customer-driven strategies, reflecting an ongoing debate on balancing operational excellence with market responsiveness.

International Organization for Standardization (ISO) is an international standards board that establishes frameworks for improving the quality of goods and services globally. ISO standards aim to enhance productivity, consistency, and competitiveness. Some of the widely recognized ISO standards include ISO 14000 for environmental management, ISO 22000 for food safety, and ISO 9000 for quality management [10]. However, critics argue that ISO certification alone does not guarantee sustained quality improvement unless organizations integrate these standards with customer feedback mechanisms and market-driven innovation. ISO 9001:2015 Quality Management ISO 9001 is an international standard that focuses on process-based quality management rather than product outcomes. The key elements of ISO 9001 include process control, risk-based thinking, and continuous improvement to ensure consistency in product and service quality. The ISO 9000 family includes:

1. ISO 9000: Provides the foundational theory and terminology for quality management.
2. ISO 9001: Offers a systematic framework to ensure process consistency for customer satisfaction.
3. ISO 9004: Provides guidelines for continuous improvement in organizational performance [11].

Recent discussions on quality management emphasize that compliance with ISO standards must be integrated with customer-centric strategies to remain competitive. As digital transformation accelerates, businesses are increasingly leveraging data analytics and artificial intelligence to refine quality processes in alignment with market demands.

Marketing Performance Marketing performance refers to the effectiveness of marketing strategies in achieving key business objectives, such as increased sales, market share, customer satisfaction, and profitability [12]. It reflects a company's ability to manage its marketing mix in a way that creates value and builds a competitive advantage. In today’s competitive environment, firms must integrate quality management principles with marketing strategies to create a seamless customer experience. Quality-driven brand reputation, customer perceptions of reliability, and responsiveness to market trends all contribute to marketing success.

Marketing Performance Indicators (MPIs) can be categorized into the following areas:

1. Financial: Return on Marketing Investment (ROMI), profit margin.
2. Market: Market share, sales volume.
3. Relational: Customer satisfaction, loyalty, and retention.
4. Innovation: Success of new products, market response to innovation.

Modern businesses recognize that quality management and marketing performance are not separate functions but interdependent components of organizational success. As such, the

alignment of quality initiatives with consumer insights, digital engagement, and brand positioning is increasingly seen as a competitive imperative. The ongoing debate centers on whether traditional quality management frameworks can adapt to the agility required in today's market-driven economy or if new hybrid models need to emerge to bridge the gap between operational efficiency and dynamic market responsiveness.

Research Method

This study employs a quantitative descriptive approach using a survey method. Descriptive quantitative research aims to measure and analyze numerical data collected from respondents through questionnaires or other survey instruments [14]. In this study, the survey approach is used to gather data from a representative sample of respondents, including employees of PT Timah Tbk, management, and possibly customers. This approach aims to provide a detailed description of the implementation of ISO 9001:2015, the quality of the products produced, and its impact on the company's marketing performance. The collected data will be analyzed using descriptive and inferential statistical analysis to understand patterns, relationships, and the influence between variables.

For data analysis, this study uses Structural Equation Modeling (SEM) with LISREL version 8.80 software. SEM is employed to analyze the complex relationships between latent variables, such as the implementation of ISO 9001:2015, product quality, and marketing performance [15]. Validity and reliability tests are conducted on the research instruments using Pearson Product Moment correlation and the Cronbach Alpha method, with the assistance of SPSS software. The results of this analysis are expected to provide an accurate empirical overview of the impact of ISO 9001:2015 implementation at PT Timah Tbk, as well as support the company's strategic decision-making process.

Results

A. Construct Validity Test Results

The construct validity test was conducted using several criteria: (1) Convergent Validity, measured by loading factor values > 0.7; (2) Heywood Case Analysis, ensuring there are no unreasonable parameter estimates; (3) Discriminant Validity, ensuring that the loading values for the target construct are greater than those for other constructs; (4) Composite Reliability > 0.7; (5) AVE (Average Variance Extracted) > 0.5; and (6) Cronbach Alpha > 0.6 [16]. The results of the validity and reliability tests show that the constructs meet the required criteria. The Convergent Validity, measured by the outer loading and AVE, demonstrates a good correlation (values > 0.7). All indicators in this study have a loading factor value above 0.70, allowing the data to proceed to the next testing stage [17].

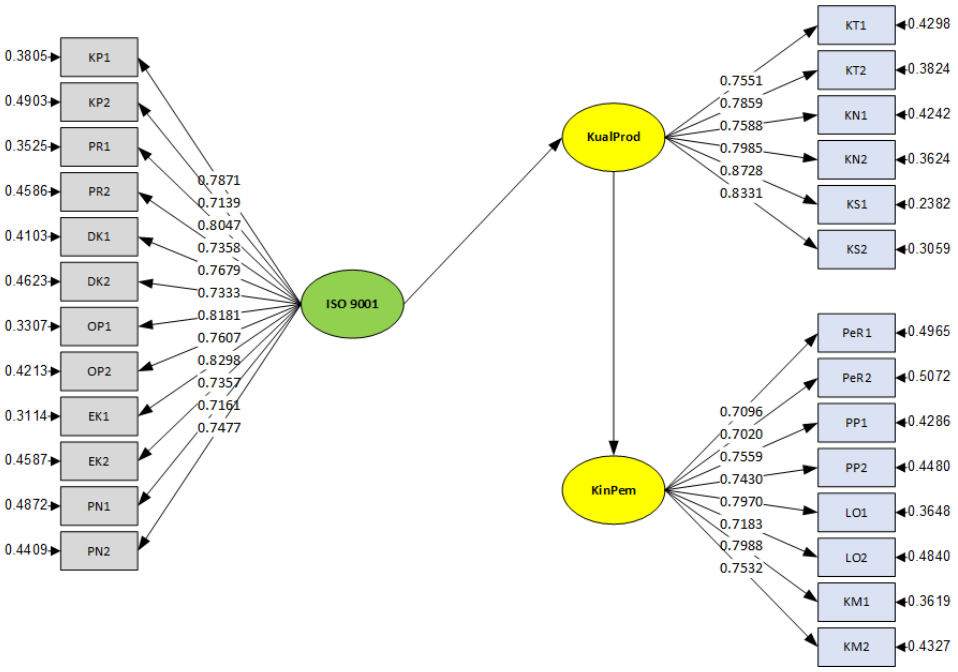


Fig. 2. Lisrel Structural Model

B. Heywood Case Analysis

The Heywood Case Analysis ensured no negative error variance (Theta) values in the model indicators. The analysis results indicate that all Theta values fall within a positive range, meaning there are no negative values in the tested indicators. Based on these results, all indicators representing latent variables meet the "non-negative" validity criterion. Therefore, the model is considered stable and suitable for further analysis.

C. Discriminant Validity

The Discriminant Validity test evaluates the reliability of the constructs using Composite Reliability (CR) and Average Variance Extracted (AVE) values. The results of the Fornell-Larcker Criterion test indicate that the square root of the AVE for each construct is greater than the correlation between constructs, suggesting that the model meets the criteria for good validity [18]. Therefore, the model is considered suitable for further analysis.

D. Uji Average Variance Extracted (AVE)

The Discriminant Validity test indicates that the AVE values for all constructs exceed 0.5, with ISO 9001:2015 (0.7635), Marketing Performance (0.8018), and Product Quality (0.7480), demonstrating good construct validity. Additionally, the Cronbach's Alpha test shows values greater than 0.6 for all variables (ISO 9001:2015 = 0.944, Marketing Performance = 0.915, Product Quality = 0.910), indicating strong construct reliability. Therefore, the research model meets both the validity and reliability criteria.

E. Hasil Uji Model Struktural (Inner Model)

The Structural Model Test (inner model) aims to analyze the relationships between exogenous and endogenous variables by examining the R-Square values, which indicate the extent to which independent variables explain the dependent variable. An R-Square value closer to 1 signifies a stronger relationship. The results of the R-Square test show that the impact of the ISO 9001:2015 model on product quality has an R-Square value of 0.8164 (81.64%). In comparison, the relationship between Product Quality and Marketing Performance has an R-Square value of 0.9738 (97.38%), indicating a strong influence. Subsequently, hypothesis testing was performed using the bootstrapping method to assess the significance of the relationships between the variables.

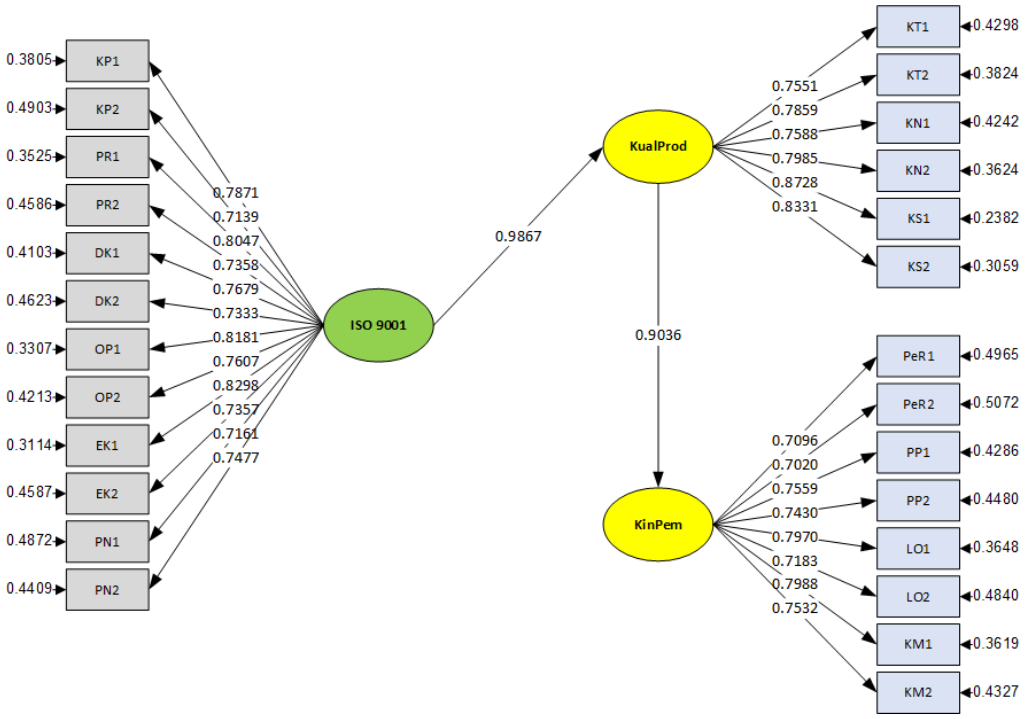


Fig. 3. Bootstraping Test Results

The analysis (Table 1) confirms that implementing ISO 9001:2015 significantly improves product quality (path coefficient = 0.9867, t-stat = 10.0520, p = 0.000), leading to its acceptance (H1). Additionally, product quality strongly influences marketing performance **(**path coefficient = 0.9036, t-stat = 8.4182, p = 0.000**)**, supporting H2. Both relationships are highly significant, as indicated by t-statistics exceeding the t-table value (1.9721) and p-values below 0.05. These results highlight that effective quality management enhances product standards, which in turn strengthens marketing performance, competitiveness, and customer trust.

Table 1. Hypothesis Testing Results

No	Hypothesis	Path Coefficient	Standard Deviation	t-stat.	t-table	Sig,	Decision
1	ISO 9001:2015 → Product Quality	0.9867	0.0982	10.0520	1.9721	0.000	H1 Accepted
2	Product Quality → Marketing Performance	0.9036	0.1073	8.4182	1.9721	0.000	H2 Accepted

Discussion

The findings of this study provide strong empirical evidence supporting the positive impact of ISO 9001:2015 on product quality. The statistical analysis revealed a highly significant t-statistic value of 10.0520, well above the threshold of 1.9721, and a positive path coefficient of 0.9867. These results confirm that implementing ISO 9001:2015 leads to notable improvements in product quality. This finding aligns with previous research that emphasizes the role of ISO 9001:2015 in standardizing processes, minimizing defects, and ensuring continuous quality enhancement [19], [20]. Organizations that rigorously adhere to ISO 9001:2015 principles are more likely to experience enhanced efficiency, better customer satisfaction, and higher consistency in their product offerings.

Moreover, the study also highlights the crucial relationship between product quality and marketing performance. With a significant t-statistic value of 8.4182 and a positive path coefficient of 0.9036, the results strongly support the hypothesis that higher product quality contributes to improved marketing performance. This relationship underscores the importance of quality as a key driver of customer trust, brand reputation, and competitive positioning [21], [22]. Companies that prioritize product quality are better equipped to attract and retain customers, increase sales, and strengthen their market share.

These findings contribute to the ongoing discourse on the interdependence between quality management and market success. While ISO 9001:2015 serves as a robust framework for quality assurance, its effectiveness is further amplified when coupled with strategic marketing initiatives. In an era of heightened consumer expectations and digital transformation, organizations should not only comply with ISO standards but also leverage quality excellence as a core component of their marketing strategy [23]. By doing so, businesses can achieve sustainable growth, foster customer loyalty, and maintain a competitive advantage in the marketplace.

Future research could explore additional moderating factors that may influence the relationship between ISO 9001:2015, product quality, and marketing performance. Variables such as organizational culture, industry type, and technological adoption may provide deeper insights into the mechanisms through which quality management frameworks translate into marketing success.

Conclusion

This study employs Structural Equation Modeling (SEM) based on Partial Least Squares (PLS), utilizing the Lisrel 8.8 software to evaluate the proposed model. The results of the construct validity and reliability tests indicate that all indicators meet the criteria for good validity and reliability, including Convergent Validity, Heywood Case Analysis, Discriminant Validity, AVE, and Cronbach's Alpha. The structural model was tested with R-Square values of 0.8164 for the influence of ISO 9001:2015 on Product Quality, and 0.9738 for the effect of Product Quality on Marketing Performance, both indicating strong effects. The hypothesis testing results reveal that ISO 9001:2015 has a positive and significant effect on Product Quality (t-statistic = 10.0520, path coefficient = 0.9867), and Product Quality has a positive and significant impact on Marketing Performance (t-statistic = 8.4182, path coefficient = 0.9036). Thus, Hypotheses H1 and H2 are accepted.

Conflict of Interest

The authors should declare that there is no conflict of interest.

References

[1] G. Zimon, A. M. Habib, and D. Haluza, "Does the quality management system affect working capital management efficiency? Evidence from Polish firms," Cogent Bus. Manag., vol. 11, no. 1, pp. 1–18, 2024, doi: 10.1080/23311975.2023.2292787.

[2] F. Murmura, F. Musso, L. Bravi, and G. Pierli, "The role of quality management systems in fostering the international competitiveness of companies," Int. J. Qual. Reliab. Manag., vol. 41, no. 7, pp. 1979–1999, 2024, doi: 10.1108/IJQRM-02-2023-0040.

[3] S. Tymchuk and L. Neshchadym, "Improving the Economic Efficiency of Quality Management Services of Tourist Services Enterprises," Mark. Infrastruct., vol. 1, no. 66, pp. 138–142, 2022, doi: 10.32843/infrastruct66-25.

[4] J. Liu, D. Zhuang, and W. Shen, "The impact of quality management practices on manufacturing performance: an empirical study based on system theory," Soft Comput., vol. 27, no. 7, pp. 4077–4092, 2023, doi: 10.1007/s00500-021-06606-3.

[5] N. Nguyen, C. Nguyen, H. Nguyen, and V. Nguyen, "The impact of quality management on business performance of manufacturing firms: The moderated effect of industry 4.0," Qual. Innov. Prosper., vol. 25, no. 3, pp. 120–135, 2021, doi: 10.12776/qip.v25i3.1623.

[6] Admin PT. Timah Tbk, "Manajemen Risiko PT TIMAH Tbk," 2021.

[7] E. Silalahi, I. Nazmia, and A. Masduki, "Analisis Penerapan ISO 9001 : 2015 Industri Makanan : Sebuah Narrative Literature Review," Jisma, vol. 02, no. 03, pp. 25–33, 2023.

[8] A. Febriola, D. Pramana, W. C. Sihombing, and ..., "Analisis Implementasi Standar Sistem Manajemen Mutu Iso 9001: 2015 Dalam Meningkatkan Pemberdayaan Tenaga Pendidik …," Mitita J. …, vol. 1, no. 1, pp. 73–80, 2023.

[9] A. N. H. Rina Fitriana, Debbie Kemala Sari, "Pengendalian dan Penjaminan Mutu," Wawasan Ilmu, p. 277, 2021.

[10] D. P. Natalie and A. D. Manuputty, "Analisis Manajemen Risiko Teknologi Informasi dengan ISO 31000:2018 pada PT Bayu Buana Tbk," JURIKOM (Jurnal Ris. Komputer), vol. 9, no. 5, p. 1290, 2022, doi: 10.30865/jurikom.v9i5.4797.

[11] D. Fitri and W. Ismanto, "Sistem Manajemen Mutu Iso 9000 Dalam Peningkatan Mutu Produk Dan Pelayanan Serta Kepuasan Pelanggan Di Pasar Internasional," J. Dimens., vol. 7, no. 3, pp. 421–433, 2019, doi: 10.33373/dms.v7i3.1705.

[12] P. Kotler and K. L. Keller, Marketing Management. in Always learning. Pearson, 2016.

[13] N. Trusnawati, N. Nursiti, and D. Navanti, "International Review of Management and Marketing," Int. Rev. Manag. Mark., vol. 9, no. 3, pp. 64–68, 2019.

[14] Sugiyono, Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: Alfabeta, 2023.

[15] A. Prayudi, “SEM Pls: Alat Analisis.” 2022.
[16] K. K.-K. WONG, Mastering Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS in 38 Hours, vol. 01. 2019.
[17] Ghozali and Latan, Partial Least Squares Konsep, Teknik dan Aplikasi menggunakan Program SmartPLS 3.0. Semarang: Badan Penerbit - Undip, 2015.
[18] T. Sukwika, Implementasi Software Partial Least Square (PLS), no. July. Tim Mafy, 2023.
[19] R. Sousa and C. A. Voss, "Quality management re-visited: A reflective review and agenda for future research," Journal of Operations Management, vol. 20, no. 1, pp. 91-109, 2002.
[20] E. L. Psomas and A. Pantouvakis, "ISO 9001 overall performance dimensions: An exploratory study," TQM Journal, vol. 27, no. 5, pp. 519-531, 2015.
[21] V. A. Zeithaml, "Service quality, profitability, and the economic worth of customers: What we know and what we need to learn," Journal of the Academy of Marketing Science, vol. 28, no. 1, pp. 67-85, 2000.
[22] D. A. Aaker, Managing Brand Equity: Capitalizing on the Value of a Brand Name. Free Press, 2009.
[23] Kotler and K. L. Keller, Marketing Management, 15th ed. Pearson Education, 2016.

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