

The Effects Of Employee Behavior On Customer Loyalty Through Customer Satisfaction: Sentiment Analysis Of Google Maps Restaurant Review In Manado City

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Abstract

This study examines the effects of employee behavior on customer satisfaction and customer loyalty by analyzing 367 Google Maps restaurant reviews from Manado City collected between 2022 and 2025. Using a lexicon-based sentiment analysis model tailored for Bahasa Indonesia and Manado dialects, the research quantifies sentiment for three key variables: employee behavior, customer satisfaction, and customer loyalty. Descriptive results indicate that customers express satisfaction more frequently than loyalty intentions, while comments related to employee behavior tend to be mixed. Correlation and regression analyses reveal that employee behavior significantly increases customer satisfaction (H1 supported), but customer satisfaction does not significantly predict loyalty, nor does employee behavior directly affect loyalty. Mediation testing using the Baron and Kenny (1986) approach confirms that customer satisfaction does not mediate the relationship between employee behavior and loyalty. These findings partially support the Service-Profit Chain Theory by confirming the link between service behavior and satisfaction but not the subsequent satisfaction-loyalty pathway. The study highlights the value of online reviews as real-time, natural reflections of customer experiences while also emphasizing that loyalty intentions are less likely to be expressed in textual feedback. Implications, limitations, and recommendations for integrating sentiment analysis with behavioral data in future research are discussed.

Keywords: Employee Behavior; Customer Satisfaction; Customer Loyalty; Sentiment Analysis; Google Maps Reviews; Lexicon-Based Analysis; Service-Profit Chain Theory; Restaurant Industry

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INTRODUCTION

The food and beverage (F&B) industry in Indonesia has been one of the fastest-growing sectors in the national economy to date. Over the past decade, this sector has expanded, and according to the BPS (2023), there were 4.85 million total F&B service activities in Indonesia which is a growth by 21,13 percent compared to 2016. According to BPS (2023) in 2016 there were just under 30 thousand F&B service activities in North Sulawesi and compared to 2023 it had over 40 thousand establishments which is 33% more growth, and this seven-year growth shows that F&B service industry is a growing sector in local economies. However, this growth

also intensifies the competition, and in such a competitive market, customers not only depend on food quality or price alone, but also on the quality of the service provided.

In most organizational behavior (OB) research in Indonesia, it often emphasizes internal drivers of employee performance such as compensation and motivation, rather than on how the employee behavior translates into customer experiences (Judijanto et al., 2025). Recent studies have shown that employee behaviors that go beyond just the formal job duties becomes a factor that influence customer experiences. Service-oriented Organizational Citizenship Behavior (Service-Oriented OCB) has been shown to have a positive influence on customer satisfaction (Yan et al., 2025), while employee service competence also found to be significantly increase customer satisfaction and repurchase intention, with customer satisfaction acting as a key mediator (Yao et al., 2025).

Nowadays, customers are relying more towards online reviews when choosing where to eat. Empirical evidence shows that reviews are directly linked to shaping consumers' trust in restaurants and their intentions to return, this makes it the one factor that positively influences customer restaurant choices (Xia & Ha, 2023). Complementing this, a recent study shows that while food and service quality becomes the strongest predictor of restaurant choice, online reviews become one of the external cues that also play a significant role in shaping customer choice (Dabral et al., 2025). Furthermore, research about restaurant reviews sentiment analysis during the COVID-19 pandemic revealed how customer emotions and perceptions have shifted in response to service quality and hygiene concerns, this highlights the role of online reviews in capturing real-time changes in consumer behavior (Harba et al., 2021). Building on these developments, this study aims to focus on Google Maps reviews in the Indonesian context, where such reviews not only influence consumer decision-making but also to provide large-scale and authentic dataset for analyzing how the employee behavior will translate to customer satisfaction and loyalty.

Most of the OB research in Indonesia still emphasizes internal employee factors like compensation, motivation, and culture (Judijanto et al., 2025), while internationally, studies have highlighted how OCB and service competence have influenced customer outcomes (Yan et al., 2025; Yao et al., 2025). Few studies in Indonesia have examined how employee behaviors are reflected in customer perceptions. This makes marketing studies in F&B industry often stress tangible elements like food quality, price, and ambience, leaving service behavior underexplored. And the methods often used rely heavily on surveys, which are costly, time-consuming, and prone to bias due to the nature of the method. Online reviews offer an alternative method that provides real-time, large-scale, and authentic data, which have been used in sentiment analysis research in Europe (Harba et al., 2021), Thailand (Pleerux & Nardkulpat, 2023), and Indonesia (Sutoyo & Permana, 2025). This gap gives the opportunity for research that will connect employee behavior to customer satisfaction and loyalty in the Indonesian context using Google Maps reviews in Manado.

Building on these gaps, this study aims to examine the effect of employee behavior on customer loyalty in the food and beverage sector, with customer satisfaction serving as a mediating variable. The study focuses on reviews of restaurants in Manado that are collected from Google Maps, where attributes of employee behavior such as friendliness, responsiveness, and courtesy are often reflected in customer comments. Specifically, it seeks to address how employee behavior will influence customer satisfaction, how satisfaction will shape loyalty, and whether satisfaction mediates the relationship between employee behavior

and loyalty. Theoretically, this study contributes by extending organizational behavior research beyond internal drivers and by integrating service-oriented OCB with marketing outcomes such as satisfaction and loyalty. Methodologically, it offers novelty by applying sentiment analysis of online reviews in Bahasa Indonesia, which could provide a real-time and non-bias results alternative to traditional survey-based approaches. Practically, the findings are expected to provide actionable insights for restaurant managers in Manado, helping them to improve frontline service, monitor employee performance through online feedback, and design interventions to foster long-term customer retention.

2. Literature Review and Hypothesis Development

2.1 Theoretical Foundation

This research is theoretically based on the Service-Profit Chain Theory proposed by Heskett et al. (1994). The theory elucidates the relationship between internal service quality and employee behavior, which eventually influences customer satisfaction and loyalty, so establishing a causal chain that enhances business performance.

According to this framework, the way employee behavior, including being polite, responsive, and helpful, is what customers think makes the service good. Customers are happier with the service when employee engage in a good and proactive way. Customers are more likely to remain loyal, return, and recommend the service to others. The theory provides a rational framework to elucidate how employee behavior influences customer satisfaction, thereby fostering customer loyalty.

The service profit chain elucidates the direct impact of frontline employee activities on consumer emotional and behavioral responses within the food and beverage (F&B) industry. This study utilizes the theory as its basis to substantiate the suggested mediating role of customer satisfaction between employee behavior and customer loyalty in restaurant contexts.

2.2 Employee Behavior and Service-Oriented OCB

Employee behavior refers to the things that employees do and how they feel about their jobs that affect how well they do their jobs and how well they do things outside of work, which

affects how customers see them and the quality of the service overall (Robbins & Judge, 2017). In the food and beverage (F&B) industry, positive behaviors such as attentiveness, courtesy, and customer orientation have been found to boost satisfaction, while negative behaviors tend to lower it (Alhelalat et al., 2017; Söderlund, 2018). Within this framework, Service-Oriented Organizational Citizenship Behavior (OCB) emphasizes employees' voluntary acts such as responsiveness and helpfulness that go beyond formal duties to improve customer experiences (Hadjali & Salimi, 2012; Choi et al., 2024)

Previous research has shown that service-oriented OCB favorably increases customer satisfaction and loyalty, however the processes differ between situations. Yan et al. (2025) highlighted management coaching as a vital precursor to organizational citizenship behavior in the hospitality sector, while Yao et al. (2025) identified service competency as a catalyst for repurchase intention via satisfaction and brand trust. These discrepancies indicate that although OCB contributes to customer results, its manifestation may be influenced by organizational or cultural factors.

However, most earlier research relied on survey-based data, which may not completely represent true customer perceptions generated during real service encounters. Therefore, there

remains a research gap in exploring how employee behavior, particularly service-oriented OCB is viewed directly by clients through digital platforms such as Google Maps. This study addresses that gap by using sentiment analysis of customer reviews to explore how employee behavior affects customer satisfaction and loyalty.

H1 : Employee behavior has a positive effect on customer satisfaction.

2.3 Customer Satisfaction

Customer satisfaction is described as a customer's fulfillment reaction, representing the degree to which a product or service gives a pleasurable level of consumption-related fulfillment, including under- or over-fulfillment (Oliver, 1999). In the food and beverage (F&B) industry, satisfaction is determined by both observable characteristics such as food quality, cleanliness, and ambience, and also intangible elements such as employee behavior and interpersonal contact. Personal and functional characteristics of service behavior have been found to significantly shape pleasure, with personal aspects like empathy and friendliness contributing more strongly than functional aspects like speed and correctness (Alhelalat et al., 2017).

Empirical research consistently demonstrates that customer satisfaction is a crucial determinant of loyalty-related outcomes, including regular customer and positive word of mouth. Rajput and Gahfoor (2020) discovered that satisfied customers in fast-food settings are more likely to revisit and suggest the business, whereas Xin and Choi (2020) indicated that employee service attitude indirectly increases loyalty through satisfaction. Similarly, Yao et al. (2025) revealed that satisfaction mediates the association between service competence and repurchase intention. Although these studies agree that satisfaction plays a mediating role, they differ in terms of what drives satisfaction, whether it is service behavior, food quality, or brand trust, in which shows contextual variances in how satisfaction operates within different service settings.

Despite these extensive findings, most earlier research has investigated satisfaction using survey data or experimental methodologies, which may not reflect true consumer emotions captured in natural service experiences. In contrast, Pleerux and Nardkulpat (2023) revealed that sentiment analysis of internet restaurant evaluations can successfully represent actual consumer experiences and satisfaction levels. Their study, which studied TripAdvisor evaluations of restaurants in Pattaya using the VADER model, indicate that online review data provide natural, real-time, and emotion-rich insights into customer perceptions that are typically difficult to collect through traditional surveys. This supports the use of sentiment analysis as a more reliable and efficient way for understanding customer satisfaction in service industries. Therefore, this study extends past models by applying sentiment analysis of Google Maps reviews to evaluate how customer satisfaction impacts the customer loyalty in the restaurant industry.

H2 : Customer satisfaction has a positive effect on customer loyalty.

2.4 Customer Loyalty

Customer loyalty refers to a customer's commitment to repurchase or continue using a product or service regularly in the future, despite the availability of alternatives (Dick & Basu, 1994). It is commonly demonstrated through repurchase, positive word-of-mouth referrals, and resistance to moving to competitors (Oliver, 1999). In the food and beverage (F&B) industry, loyalty indicates not just repeated visits but also customers' emotional attachment and trust toward a restaurant brand (Han & Hyun, 2017). Because retaining

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existing customers is often more cost-effective than recruiting new ones, loyalty is regarded as one of the most essential measures of long-term business viability (Reicheld & Sasser, 2005; Heskett et al., 1994).

The relationship between customer satisfaction and loyalty has been frequently addressed in service and hospitality research. The Service-Profit Chain Theory (Heskett et al., 1994) claims that satisfaction acts as a fundamental driver of loyalty, linking internal service quality and employee behavior to external customer outcomes. Numerous research indicates this causal link. Rajput and Gahfoor (2020) found that satisfied customers are more likely to revisit and refer restaurants, whereas Xin and Choi (2020) affirmed that employee service attitude greatly affects loyalty through satisfaction. Yao et al. (2025) further established that satisfaction fully mediates the link between service competence and repurchase intention. These findings underline that satisfaction works as both a direct preceding and a mediating factor for establishing customer loyalty in the service industry.

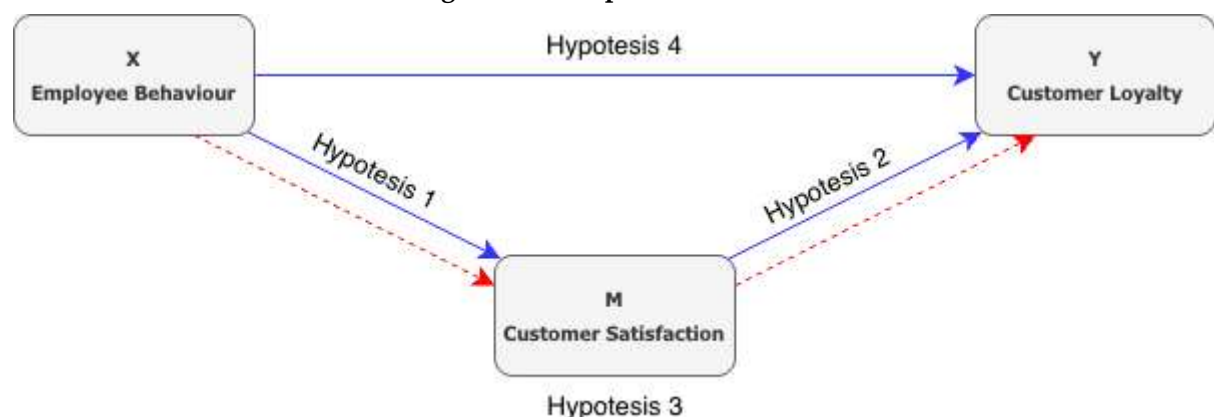
H3 : Customer satisfaction mediates the relationship between employee service behavior and customer loyalty.

Beyond the mediating role of satisfaction, scholars have also emphasized the direct influence of employee behavior on loyalty, especially in high-contact service environments. Even when satisfaction fluctuates, customers generally remain loyal because of effective ties and relational attachment created during service encounters. Back and Parks (2003) showed that pleasant interpersonal encounters contribute to attitudinal loyalty through emotional commitment, whereas Han and Hyun (2017) discovered that employee courtesy and empathy build a feeling of relational value that leads to long-term customer. These findings demonstrate that employee behavior can promote loyalty not only through satisfaction but also through direct emotional and relational reasons.

H4 : Employee behavior has a direct positive effect on customer loyalty.

The link between variables in this study and the corresponding hypotheses is summarized in the conceptual framework as displayed in figure 1.

Figure 1. Conceptual Framework



3. Research Method

3.1 Research Design

This study used a quantitative correlational design with a cross-sectional methodology, leveraging secondary data from Google Maps restaurant reviews in Manado City. The design is suitable as the study investigates the statistical correlations among employee behavior (X),

customer satisfaction (M), and customer loyalty (Y), rather than employing experimental manipulation of variables.

This study employs text mining and sentiment analysis as methodologies to convert qualitative online review data into quantitative metrics for the three variables (He et al., 2013). Sentiment analysis enables extensive, real-time, and objective evaluation of consumer perceptions, serving as a data-driven alternative to traditional self-reported surveys that are often affected by respondent bias (Almashaleh et al., 2025). Since the data is cross-sectional, the results are seen as associative. This means they provide empirical evidence that supports the Service-Profit Chain theory instead of showing direct causation.

3.2 Population and Sample Design

The population comprises Google Maps restaurants reviews written by customers who visited the restaurant located in Manado City, North Sulawesi. Because it was impractical to look at all the existing reviews, a purposive non-probability sampling method was used to choose reviews that were relevant to the research variables.

The following criteria had to be met by each review:

1. Written in the last three years (2022-2025);
2. Have written content (not just a star rating);
3. Describe an actual dining or service experience;
4. Use Bahasa Indonesia or regional versions understandable for lexicon analysis.

This study's unit of analysis is the individual customer review, with a total of $N = 367$ Google Maps reviews that matched the inclusion requirements. Each review reflects a genuine customer experience, enabling the research to capture variations in perceived employee behavior, satisfaction, and loyalty at the customer level. Green's (1991) recommendation for regression analysis is that the sample size must be at least $50 + 8m$, where m is the number of predictors. This sample size easily meets the minimal criterion for a single-predictor model. The relatively large number of observations improves the accuracy and reliability of correlation and regression estimations.

Although reviews from the same restaurant may not be totally unbiased, the variety of restaurants in the dataset helps to mitigate this limitation. So, we can be sure that the data show how employee behavior, customer satisfaction, and customer loyalty are related in the service experiences that people write in online reviews.

3.3 Data Collection Design

Data was extracted using the Outscraper API, which routinely scrapes publicly available Google Maps restaurant reviews, including text content, star ratings, timestamps, and outlet information. Only reviews written between October 2022 and September 2025 were retained to assure recency.

The gathered data were then filtered based on the inclusion criteria and cleaned using Python 3.11. Preprocessing steps included:

1. Lowercasing and punctuation removal,
2. Elimination of unnecessary symbols and emoticons,
3. Tokenization and stopword filtering,
4. Normalization of local slang and repeated characters (e.g, mantaaap → mantap).

All data handling met with ethical norms for secondary data. Because the reviews are publicly available and anonymised, no explicit consent was necessary. Reviewer identities were removed or hashed, and only text, date, and rating were maintained for analysis.

3.4 Measurement Instrument

The analytical tool was a lexicon-based sentiment analysis model specifically built for Bahasa Indonesia and regional Manado dialects. The lexicon was broadened to include domain-specific terminology pertinent to F&B and local slang, such as enak, mantap, maknyus, ramah, lambat, rekomen, caparuni, and similar phrases.

A negation-aware scoring system was implemented, recognizing modifiers like tidak, nggak, nda, nyanda, which flip sentiment polarity (e.g., tidak enak → negative). Each review was automatically graded across three different dimensions:

1. X - Employee Behavior: Sentiment from terms characterizing service encounters (e.g., ramah, cepat, sopan).
2. M - Customer Satisfaction: Sentiment from evaluative phrases about cuisine, atmosphere, or experience (e.g., enak, nyaman, puas).
3. Y - Customer Loyalty: Sentiment from revisit or recommendation expressions (e.g., datang lagi, langganan, rekomen).

Each score ranged from -1 (negative) to +1 (positive), representing the polarity of expressions within the review text. The resulting structured dataset contained one sentiment score per review for each variable, forming the quantitative basis for the subsequent statistical analysis.

3.5 Data Analysis Technique

We used IBM SPSS Statistics 30 to analyze the data in this study. The dataset comprised review-level sentiment scores for three continuous variables of Employee Behavior (X), Customer Satisfaction (M), and Customer Loyalty (Y). Because all variables were numeric sentiment values ranging from -1 to +1, a combination of descriptive and inferential statistical techniques was applied.

The analysis procedure included the following steps:

1. We utilized descriptive statistics to get the mean, minimum, maximum, and standard deviation of each variable and show how they were spread out. This gave a general idea of how customer reviews showed how they felt about the employee behavior, satisfaction, and loyalty.
2. Pearson Correlation Analysis was utilized to investigate the linear correlations among the three sentiment variables, determining whether higher employee behavior sentiment correlates with increased customer satisfaction and customer loyalty.
3. We used Simple Linear Regression to investigate the direct impact of hypotheses H1-H3:
 - *H1: Employee Behavior → Customer Satisfaction*
 - *H2: Customer Satisfaction → Customer Loyalty*
 - *H4: Employee Behavior → Customer Loyalty*

Each model produced coefficients (β), R^2 , and significance levels (p -values) to evaluate the strength and direction of the relationships.

4. The mediation (H3) was assessed using the Baron and Kenny (1986) procedure, which evaluates whether Customer Satisfaction (M) have the effect of Employee Behavior (X) on Customer Loyalty (Y). The mediation analysis requires the examination of three regression pathways. First, the effect of Employee Behavior on Customer Satisfaction ($X \rightarrow M$) Must be significant to establish that the independent variable predicts the mediator. Second, Customer Satisfaction must significantly predict Customer Loyalty ($M \rightarrow Y$) to confirm that the mediator influences the outcome variable. Third, the direct effect of Employee Behavior on Customer Loyalty ($X \rightarrow Y$) is tested to determine whether the relationship decreases or becomes non-significant when the mediator is included. Only when all paths demonstrate the expected significance can mediation be concluded. These three pathways collectively determine whether Customer Satisfaction acts as a mediating variable in the relationship between Employee Behavior and Customer Loyalty.

Assumption note. Standard regression assumptions (linearity, normality of residuals, homoscedasticity, and independence) were considered during analysis. Given the textual nature of the data and its observational design, the analysis emphasizes effect direction and significance rather than causal inference. The results are interpreted as associative relationships among sentiment variables derived from customer reviews.

3.6 Summary of Analytical Workflow

Stage	Tool/ Software	Output
Data extraction	Outscraper API	Raw Google Maps review dataset
Data cleaning & pre-processing	Python (pandas, re)	Cleaned textual reviews
Sentiment computation	Python (custom lexicon for Bahasa Indonesia & Manado slang)	Review-level sentiment scores (X, M, Y)
Statistical analysis	IBM SPSS Statistics 30	Descriptive stats, correlation matrix, regression tests (H1, H2, H4), mediation test (H3)
Reporting	MS Word	Summary tables, interpretation, and discussion of results

3.7 Research Ethics

The study used solely publicly available information and did not involve direct interaction with human subjects. All user data were anonymised, and no personally identifiable information was saved. This assures compliance with ethical research requirements for secondary data analysis.

4. Results and Discussion

4.1 Overview

This chapter summarizes the findings of the statistical analysis and explains them in connection to the study hypotheses. The findings are taken from 367 Google Maps restaurant

reviews collected from dining establishments in Manado City, North Sulawesi, and examined at the review level.

The purpose of the analysis was to investigate the relationships among Employee Behavior (X), Customer Satisfaction (M), and Customer Loyalty (Y) as interpreted through customer-generated content. Descriptive statistics were initially used to characterize the general sentiment distribution for each variable, followed by inferential tests to evaluate the offered hypotheses.

The Pearson correlation was used to look at the direction and intensity of bivariate connections, and basic linear regression analyses were used to look at the direct impacts of employee behavior and customer satisfaction on customer loyalty. The Baron and Kenny (1986) technique was then applied to determine whether customer satisfaction between employee behavior and customer loyalty.

All analyses were performed using IBM SPSS Statistics 30, and findings are reported in three main sections:

1. Descriptive statistics of sentiment scores;
2. Correlation and regression analyses of hypotheses (H1 - H4); and
3. Interpretation of findings in relation to the Service-Profit Chain theory and prior research.

4.2 Descriptive Statistics

Descriptive statistics were applied to offer an overview of the sentiment distribution across the three key variables. Table 4.1 shows the mean, standard deviation, minimum, and maximum values for each variable based on the 367 reviews analyzed.

Table 4.1. Descriptive Statistics of Sentiment Variables

Variable	Mean	Std. Deviation	Minimum	Maximum
Employee Behavior (X)	-0.052	0.512	-1.0	1.0
Customer Satisfaction (M)	0.253	0.663	-1.0	1.0
Customer Loyalty (Y)	0.016	0.233	-1.0	1.0

The results suggest that Google Maps reviews generally expressed slightly positive sentiments toward restaurant experiences in Manado City. The average satisfaction score ($M = 0.25$) shows that customers were mainly happy and satisfied with the dining experiences. In contrast, employee behavior sentiment ($M = -0.05$) was slightly below neutral, suggesting that reviews on staff performance were mixed, some good and some negative.

The loyalty feeling ($M = 0.016$) was close to neutral, implying that few reviews indicated returning or recommending the restaurant. This trend implies that customers prefer to focus more on describing their immediate happiness than on communicating loyalty intentions.

4.3 Correlation Analysis

Pearson correlation analysis was conducted to examine the strength and direction of the linear relationships among the three variables. The results are presented in Table 4.2.

Table 4.2. Pearson Correlation Results (N = 367)

Variables	1	2	3
1. Employee Behavior (X)	1		
2. Customer Satisfaction (M)	0.262 (p < 0.001)	1	
3. Customer Loyalty (Y)	-0.016 (p = 0.763)	0.044 (p = 0.402)	1

The correlation results suggest that employee behavior and customer satisfaction have a positive and significant relationship ($r = 0.262$, $p < 0.001$). This means that when reviews contain more positive comments about employee behavior, they also tend to express higher satisfaction levels.

Meanwhile, customer satisfaction and loyalty ($r = 0.044$, $p = 0.402$) and employee behavior and customer loyalty ($r = -0.016$, $p = 0.763$) show very weak and insignificant correlations. This suggests that statements of loyalty (such as intent to return or refer) rarely occur in the same reviews where satisfaction or service quality are discussed.

Overall, the correlation analysis reveals that positive employee behavior sentiment is connected with better satisfaction, but does not directly or indirectly correspond to loyalty expressions in the reviews texts.

4.4 Regression Analysis

Simple linear regression analyses were undertaken to investigate the hypothesized correlations among Employee Behavior (X), Customer Satisfaction (M), and Customer Loyalty (Y). The results are presented in Table 4.3

Table 4.3. Regression Results (N = 367)

Hypothesis	Path	β	R ²	F	Sig. (p)	Result
H1	Employee Behavior → Customer Satisfaction	0.339	0.069	26.928	< 0.001	Supported
H2	Customer Satisfaction → Customer Loyalty	0.015	0.002	0.703	0.402	Not Supported
H4	Employee Behavior → Customer Loyalty	-0.007	0.000	0.091	0.763	Not Supported

The regression analysis demonstrates that employee behavior has a considerable positive influence on customer satisfaction ($\beta = 0.339$, $p < 0.001$), supporting H1. This implies that reviews describing staff as friendly, polite, or responsive tend to include higher satisfaction sentiment.

However, customer satisfaction does not substantially predict customer loyalty ($\beta = 0.015$, $p = 0.402$). These results demonstrate that although good service and happy experiences boost happiness, they do not necessarily translate to clear displays of loyalty such as intent to return or recommendations in online reviews.

4.5 Mediation Analysis (H3)

The mediation impact of Customer Satisfaction (M) between Employee Behavior (X) and Customer Loyalty (Y) was examined using the Baron and Kenny (1986) technique. The test comprised three regression paths:

1. $X \rightarrow M$ (Employee Behavior → Customer Satisfaction)
2. $M \rightarrow Y$ (Customer Satisfaction → Customer Loyalty)

3. $X \rightarrow Y$ (Employee Behavior $\rightarrow$ Customer Loyalty)

The findings demonstrate that only the first path ($X \rightarrow M$) was significant ($\beta = 0.339$, $p < 0.001$), whereas the other two lines ($M \rightarrow Y$, $\beta = 0.015$, $p = 0.402$; $X \rightarrow Y$, $\beta = -0.007$, $p = 0.763$) were not significant.

Because customer satisfaction did not significantly predict loyalty, the mediation effect was not supported. This means that even though good employee behavior leads to increased satisfaction, it does not immediately or indirectly result in loyalty statements in online reviews. Customers prefer to communicate their satisfaction but rarely add future plans such as returning or promoting the business.

4.6 Summary of Hypothesis Testing

Table 4.4 summarizes the results of hypothesis testing for the relationships among Employee Behavior (X), Customer Satisfaction (M), and Customer Loyalty (Y) based on the correlation and regression analyses.

Hypothesis	Relationship Tested	β	Sig. (p)	Result
H1	Employee Behavior $\rightarrow$ Customer Satisfaction	0.339	< 0.001	Supported
H2	Customer Satisfaction $\rightarrow$ Customer Loyalty	0.015	0.402	Not Supported
H3	Employee Behavior $\rightarrow$ Customer Loyalty, mediated by Satisfaction	-	-	Not Supported
H4	Employee Behavior $\rightarrow$ Customer Loyalty	-0.007	0.763	Not Supported

From the four hypotheses examined, only H1 was supported. This indicates that positive employee behavior significantly enhances customer satisfaction as expressed in online reviews. However, customer satisfaction did not lead to explicit statements of loyalty, and employee behavior showed no direct or indirect influence on loyalty. These results imply that customers are more inclined to comment about their immediate satisfaction with service and food quality rather than their long-term loyalty intentions in online reviews.

4.7 Discussion

This study explored the links among Employee Behavior, Customer Satisfaction, and Customer Loyalty based on sentiment analysis of Google Maps restaurant reviews in Manado City. The findings partially confirm the Service-Profit Chain hypothesis (Heskett et al., 1994), which implies that employee service quality leads to customer satisfaction and, in turn, loyalty. Results demonstrate that Employee Behavior has a substantial positive influence on customer satisfaction (H1), indicating that customers who characterize staff as friendly, helpful, or polite tend to express more pleasure in their reviews.

However, the connections between Satisfaction and Loyalty (H2) and the mediating function of Satisfaction (H3) were not significant. This implies that, while customers may feel delighted with their eating experience, they infrequently communicate loyalty intentions such as returning or recommending in online reviews. On digital platforms, customers frequently focus on describing immediate experiences like meal quality and service speed rather than long-term behavioral objectives.

The direct effect of Employee Behavior on Loyalty (H4) was likewise modest, suggesting that good service does not necessarily convert into stated loyalty. Overall, these findings demonstrate that text-based sentiment analysis efficiently captures emotional reactions (satisfaction) but not necessarily behavioral intentions (loyalty). This shows that, although employee behavior is vital for influencing happiness, loyalty may require broader elements or alternative forms of data to be completely understood.

5. Conclusion And Implications

5.1 Conclusion

This study explored the correlations among Employee Behavior (X), Customer Satisfaction (M), and Customer Loyalty (Y) using sentiment analysis of 367 Google Maps restaurant reviews in Manado City. The analysis was aimed to evaluate the mediating function of customer satisfaction within the framework of customer satisfaction within the framework of the Service-Profit Chain hypothesis (Heskett et al., 1994).

The data demonstrate that Employee Behavior has a substantial positive influence on Customer Satisfaction (H1), showing that nice, courteous, and responsive staff interactions contribute to excellent customer experiences. However, the impacts of Customer Satisfaction on Loyalty (H2), the mediation function of Customer Satisfaction (H3), and the direct influence of Employee Behavior on Customer Loyalty (H4) were not significant. This implies that while consumers enjoy exceptional service, their online reviews focus mostly on satisfaction and do not consistently express loyalty intentions such as returning or referring to the restaurant.

Overall, the study shows that employee behavior is vital for molding happiness in service environments, but contentment does not necessarily convert into loyalty expressions in online text data. Sentiment analysis may efficiently capture customers' emotional responses but may have problems in capturing behavioral intentions.

5.2 Theoretical Implications

The results partially support the Service-Profit Chain theory, supporting the first stage of the chain (employee behavior → satisfaction) but not the succeeding satisfaction loyalty relationship. This research contributes to the knowledge of how consumer emotions are expressed in online reviews, demonstrating that satisfaction is an immediate, affective outcome of service encounters, whereas loyalty is more complex and less likely to exist in textual form. The study reveals that lexicon-based sentiment analysis is a valid technique for evaluating service-related sentiments in natural language data.

5.3 Managerial Implications

For restaurant managers and practitioners, the findings underline the necessity of sustaining favorable employee-customer interactions. Training staff to be friendly, attentive, and responsive can enhance customer satisfaction and improve the overall sense of service quality. However, managers should not rely entirely on online reviews to determine customer loyalty, as such statements are generally underrepresented in textual feedback. Combining sentiment research with behavioral indicators such as repeat visits or loyalty program participation may offer a more accurate understanding of customer loyalty.

5.4 Limitations and Recommendations for Future Research

This study is limited by its use of secondary data from Google Maps reviews, which collect only textual customer feedback and may not completely represent customers' actual loyalty behaviors. Expressions of loyalty such as return visits or referrals are rarely mentioned openly in online evaluations, which may explain the limited link between customer satisfaction and customer loyalty in the findings. Additionally, the lexicon-based sentiment technique depends on keyword recognition and may overlook subtle or context-dependent phrases, especially in mixed languages or local dialects.

Future research is urged to link text-based sentiment data with behavioral or transactional data (e.g., visit frequency, purchase history, or loyalty program participation) to better capture customers' loyalty. Researchers may also examine machine learning or deep learning sentiment models to increase accuracy in recognizing context and tone in multilingual customer reviews.

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