



Enhancing Post-Pandemic Customer Experience: Building a Customer Journey Map for Shopping Malls

Ronald Sukwadi¹, Riana Magdalena Silitonga^{1*}, Yulivyani¹, Arum Park², Yung-Tsan Jou³

¹Atma Jaya Catholic University of Indonesia, Tangerang, Indonesia

²Seoul Cyber University, Seoul, South Korea

³Chung Yuan Christian University, Taoyuan, Taiwan

*Correspondence email: riana.magdalena@atmajaya.ac.id

Received: 25/03/2025

Revised: 24/04/2025

Accepted: 27/04/2025

Abstract: The COVID-19 pandemic has significantly impacted the retail industry, particularly shopping malls, which have experienced a 30% to 40% decline in customer footfall in the first quarter of 2021 compared to previous years. Despite the growing body of research on retail recovery, there remains a gap in understanding specific customer sentiments and experiences within mall environments during this period. This study aims to address this gap by analyzing customer feedback extracted from Google reviews to identify key attributes influencing the shopping experience. The research employs text-mining techniques to convert unstructured data into structured formats, eliminating irrelevant words and concepts. Following data cleaning, the Naïve Bayes Classifier method is utilized to analyze the sentiments, achieving an accuracy of around 92.86%. The findings will be visualized through word clouds and bar charts to highlight the top ten positive and negative sentiments expressed by customers. Ultimately, this research contributes to enhancing the customer experience at shopping malls by collaborating with relevant stakeholders to create a comprehensive Customer Journey Map based on the analyzed data. This map will serve as a strategic tool for mall management to implement targeted improvements and foster a more engaging shopping environment.

Keywords: sentiment; analysis; naïve; bayes; classifier



SDGs Problem Solving

Research and problem-solving methodologies enhance SDGs #8 by generating evidence-based solutions that promote equitable employment and sustainable economic growth. Research, via systematic analysis, innovation, and stakeholder collaboration, tackles productivity disparities, improves employment quality, strengthens industries, and guides policies that foster inclusive and resilient economic development.

Conflict of Interest Statement: The author(s) declares that the research was conducted in the absence of any commercial or financial relationship that could be construed as a potential conflict of interest.

Copyright: © ASIIMETRIK. This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Jurnal Asimetrik: Jurnal Ilmiah Rekayasa dan Inovasi - ASIIMETRIK is an open access and peer-reviewed journal published by Faculty of Engineering, Universitas Pancasila, Indonesia.



1. INTRODUCTION

The COVID-19 pandemic has profoundly transformed various sectors in Indonesia, with shopping malls experiencing significant declines in visitor numbers and purchasing power (Bano, Sukwadi and Park, 2022; Sukwadi, Cory and Liang, 2022). Traditionally viewed as social hubs and recreational spaces, shopping malls have faced unprecedented challenges that necessitate the adoption of new operational strategies to survive in a competitive landscape (Telci, 2013). The pandemic has prompted a shift in consumer behavior, compelling malls to prioritize customer satisfaction through enhanced safety protocols, technological upgrades, and innovative service offerings. However, the reduction in foot traffic, exacerbated by government policies and the ongoing spread of COVID-19, has led to the closure of numerous tenants and a substantial loss of revenue, threatening the viability of many shopping centers.

Despite the critical role that shopping malls play in economic growth—serving as conduits for the distribution of goods and supporting urban economic dynamics (Maitland, 1985). The Indonesian Shopping Center Management Association has reported alarming trends, including the potential sale of malls due to declining visitor numbers. The impact of the pandemic has resulted in significant job losses, with approximately 30% of mall employees laid off, further straining the economy (Sugianto, 2021). This situation underscores the urgent need for mall management to understand and address the factors influencing customer satisfaction, as this is essential for maintaining competitiveness and ensuring long-term sustainability.

The ability of shopping centers to satisfy the needs of their service users—both tenants and mall patrons—determines how well or poorly they perform. Mall management should therefore make satisfaction orientation their top priority since it is currently thought to be the key to beating the competition by offering value and satisfaction with the way goods and services are presented at competitive pricing and quality (Williams and Wellbourne-Wood, 2005).

Existing literature highlights the importance of mall attributes in shaping consumer experiences and satisfaction (Baker et al., 2002; Wong, Ng and Wong, 2012). However, there remains a gap in understanding how these attributes interact with customer sentiments during a crisis like the COVID-19 pandemic. While previous studies have categorized shopping mall attributes into various groups—such as shopping environment, tenant placement, convenience, marketing focus, and service quality (Wong, Ng and Wong, 2012; Singh and Prashar, 2013; Astono, 2014) there is limited research on how these attributes specifically influence customer perceptions and behaviors in the context of a pandemic.

The development of technology makes it easier to find sources of information, in the sectors of shopping malls customers can find information about the available tenants in the mall, ongoing promos for tenants in shopping malls, reviews of facilities, comfort, and other customers satisfaction, and so on. In addition, visitors can also provide opinions about the products or services experiences, it can be in the form of satisfaction by giving a compliment to the products or services of the company, or also in the form of criticism and suggestions from the consumer's side (Haq, 2020; Sukwadi, Halim and Thu, 2022).

The research was conducted by using a collection of reviews at several shopping malls in Jakarta using Google Review, which is in the category of unstructured raw data due to the content containing informal words, mixed language, and various other things that are informal. The Google company made a feature called Google Review for all addresses listed on Google Maps, which usually appears when users are looking for the location of a place. Google Review's interface when searching for a location is in the form of a star rating review and comments on that location. The reviews on Google Reviews are a collection of a lot of data which today is known as Big Data which certainly brings positive benefits to the company. Text mining is used to compile a list of attributes, cleaning raw data into more structured data, which will be processed for sentiment analysis with Naïve Bayes Classifier methods. Naïve Bayes Classifier is an algorithm with the main function to find the highest probability value, therefore the test data can be classified with the most appropriate category (Feldman and Sanger, 2006; Fink *et al.*, 2011; Ireland and Liu, 2018; Louisa, Sukwadi and Chen, 2021).

Attributes from the results of sentiment analysis will be visualized with a bar chart and word cloud, as the result of processing data reviews in positive and negative sentiments can be easily understood. After the following, the data will be processed using a service design tool called a Customer Journey Map to get ideas for improvements to the customer experience. A customer Journey Map is a process diagram of key stages and activities with a lot of involvement from the customer from time to time, in a time series that describes interactions with the environment, company, and so on (Addis, 2016).

This study aims to fill this research gap by analyzing customer reviews from several shopping malls in Jakarta, Indonesia, collected through Google Reviews between January 11, 2021, and November 11, 2021. The primary objective is to identify key mall attributes and their interactions with customer sentiments, ultimately providing actionable recommendations for mall management to enhance customer satisfaction.

To achieve this, the research employs text mining techniques to transform unstructured review data into structured formats, followed by sentiment analysis using the Naïve Bayes Classifier method. The results will be visualized through bar charts and word clouds, and a Customer Journey Map will be developed to illustrate customer interactions and identify areas for improvement.

In summary, this study addresses the following research gap: the lack of understanding of how shopping mall attributes influence customer satisfaction during the COVID-19 pandemic. The hypothesis posits that specific mall attributes significantly impact customer sentiments and satisfaction levels. The research objective is to analyze customer reviews to identify these attributes and their interactions. The methodology involves text mining and sentiment analysis using the Naïve Bayes Classifier. The article is structured as follows: it begins with an introduction, followed by the methodology, results and discussion, and concludes with recommendations for mall management and implications for future research.

2. METHODOLOGY

2.1. Research Framework

The research flowchart to design a Customer Journey Map based on Google Review sentiment analysis at Jakarta shopping malls during the Covid-19 pandemic can be seen in [Figure 1](#).

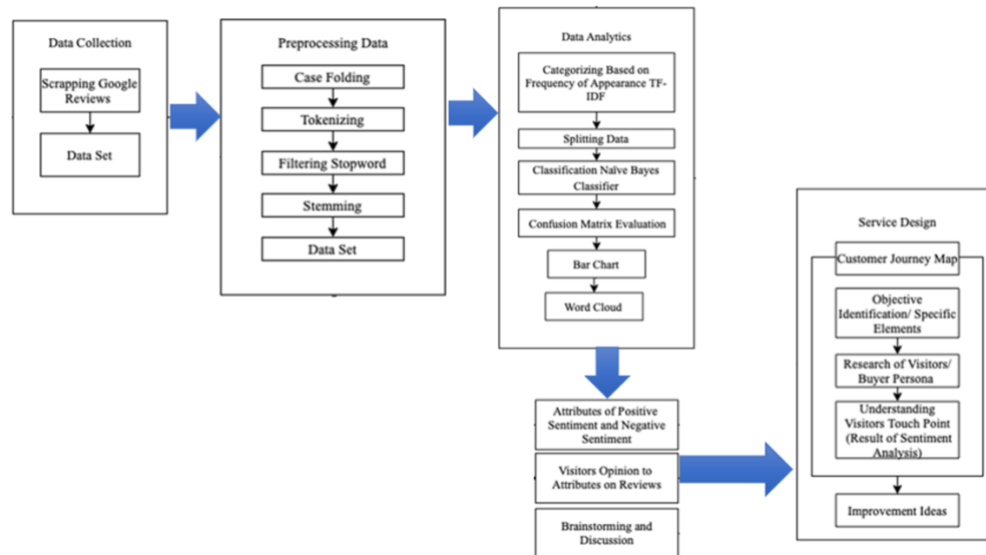


Figure 1. Research Framework

This research relies on machine learning to turn unstructured review data into meaningful information. Preprocessing removes extraneous words, punctuation, and unnecessary information from the text to structure and prepare the data for analysis. Then, the Term Frequency-Inverse Document Frequency (TF-IDF) technique measures the importance of each term in reviews to better comprehend consumer feedback. Splitting the dataset into training and testing subsets helps evaluate the model's performance.

This study utilizes the Naïve Bayes Classifier for data classification, owing to its demonstrated efficacy in text classification, especially in sentiment analysis. This strategy, grounded in Bayes' theorem, asserts that the predictors are independent of one another. This approach, grounded in Bayes' theorem, presumes the independence of predictors. This significantly facilitates and accelerates computations on large datasets. The classifier is user-friendly and operates swiftly, facilitating the rapid categorization of emotions into positive and negative groups. This is crucial while perusing several consumer reviews. A confusion matrix is utilized to evaluate the performance of the model. This illustrates the precision of the classification and identifies the model's errors. This comprehensive examination ensures the accuracy of the sentiment analysis data. Employing bar charts and word clouds to illustrate sentiment data enables stakeholders to comprehend client perceptions regarding various aspects of the research. The research offers a systematic and dependable framework for understanding client sentiment by integrating analytical and visualization methods. This strategy provides more precise insights and valuable information that can enhance the shopping mall experience for customers.

Shopping malls review data that are obtained from scrapping have unstructured and many redundant words form. The preprocessing stage is carried out to make the dataset structured and clean before doing text analysis with machine learning/ processing data. Data analytics phase has several stages, which are TF-IDF, splitting data, data classification using Naïve Bayes Classifier Method, confusion matrix, and visualization with a bar chart and word cloud. At this stage, sentiment analysis is carried out from data sets that are structured and clean from the result of processing data. The number of occurrences of each important attribute word is obtained from the results processing data, in the form of positive sentiment and negative sentiment. The results of the classification data will be visualized in the form of a bar chart and word cloud using tableau software. The purpose is to provide a visualization that is easy to understand. Top 10 highest frequency attributes are used as input to create a Customer Journey Map customized to visitor's interaction experience with shopping malls. 10 attributes with highest frequency are used as input for the Customer Journey Map on "Before" column by customizing the reviews from visitors that contain those attributes to know the issues on it. "After" Column is a possible condition or condition after improvements. Table of attributes that are used as "activities" with overall experience.

2.2. Research Design

Primary data was obtained by interviewing the Deputy Chairperson of APPBI DPD DKI Jakarta for the 2019-2022 period, Eddy Mumin. The data was obtained from the interview, in a form of discussions and brainstorming to create the Customer Journey Map. Secondary data was conducted by collecting 4580 Shopping Malls visitor reviews data on Google Review feature. Data collection was carried out by scraping data from shopping malls located in Jakarta with timespan initial government policies on January 11, 2021, followed by an increasing wave of positive Covid-19 rates, and limited to November 11, 2021, when Covid had started to subside. Review data is retrieved using Out scrapper software, a platform for scrapping data with ease of use.

3. RESULTS AND DISCUSSION

The data are obtained by using a service provider platform for scraping, named out scrapper. After having the data, it would be labelled as positive and negative sentiment classes based on rating review (Figure 2 and Figure 3). Negative sentiment classes are for one to three stars/ rating reviews. On the other hand, positive sentiment classes are for four to five stars/ rating reviews.

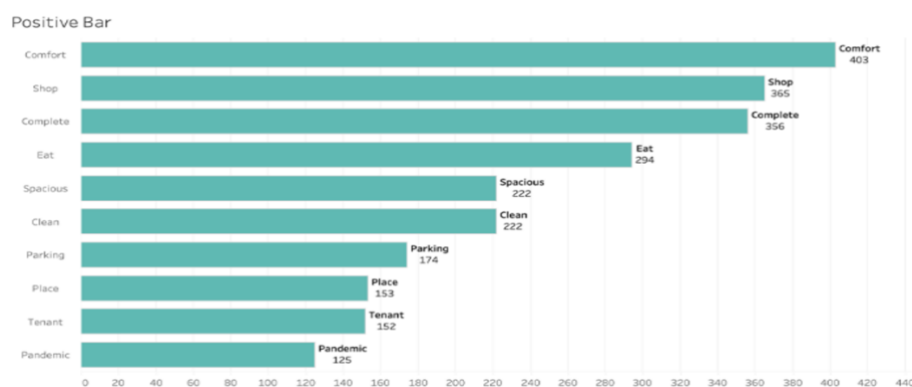


Figure 2. Bar chart for positive sentiment

Raw data are cleaned in the data preprocessing stage by removing unimportant or redundant words, uniform formatting, removing punctuation marks, and changing affixes to base words. Cleaning data is done by using libraries such as NLTK and Sastrawi to remove unimportant words and changing to root words, then manually removing words or characters that are not in the library. As a result, the data became structured and only contained important information for data mining.

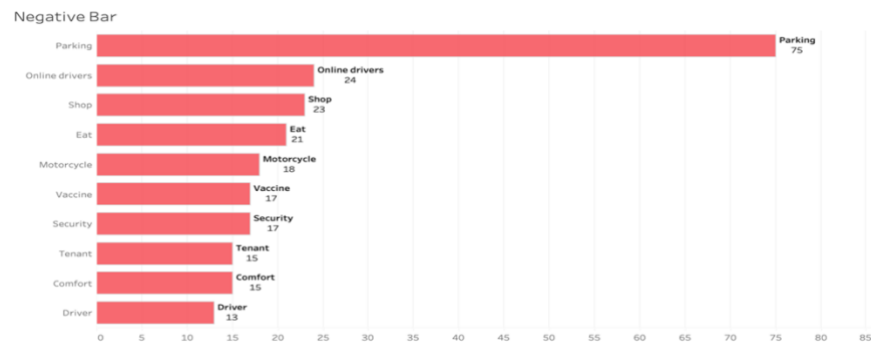


Figure 3. Bar chart for negative sentiment

Data analytics has several stages, there are TF IDF, splitting data, data classification using the Naïve Bayes Classifier method, confusion matrix, and visualization with a bar chart and word cloud. This stage intends to find out important attributes in customer's review, either in the positive or negative sentiment class. The number of occurrences of each important attribute word is obtained from the results processing data, in the form of positive sentiment and negative sentiment. The 10 highest attribute frequencies for each sentiment are visualized in the form of a bar chart and word cloud. Figure 4a. shown 10 attributes with the highest frequency in the positive sentiment class are "comfortable", "shopping", "complete", "eat", "spacious", "clean", "parking", "place", "store", and "pandemic". On the other hand, Figure 4b. shown 10 attributes with the highest frequency in the negative sentiment class are "parking", "online drivers", "shopping", "eat", "motorcycle", "vaccine", "security", "shop", "comfortable", and drivers".



(a). Positive sentiment

(b). Negative sentiment

Figure 4. Word cloud

The top 10 attributes of each sentiment that have been visualized will then be used as input for creating one of the service design tools called Customer Journey Map. Improvement ideas are obtained from discussion and brainstorming with relevant stakeholders. Therefore, the solutions can be applied in terms of various factors such as finance and implementation to be done. Table of attributes that are used as "activities" with overall experience can be seen in Table 1.

Table 1. Input of Customer Journey Map

Sentiment	Attribute	Challenges	Idea for Improvement
Positive	Comfort Spacious Clean Place	Maintaining the entire area in good condition from various aspects	Conducting throughout evaluation and carrying out regular maintenance
	Shop Complete Tenant	Evaluating tenant kinds to accommodate guests' wants and preferences	Selecting the suitable tenants in order to best suit customer needs for opening bigger market segmentation. Being creative and discipline on selecting tenants.
	Eat	Providing a variety of food choices for restaurant areas	Increasing the variety of food availability, making it diverse by not only focusing on one variant of food (Korean, Japanese, Thai, etc), being creative and discipline on selecting tenants.
	Parking	Maintaining the condition of the parking area	Installing vehicle detection sensors at the parking area to ease the visitors to park their vehicle. As a result, the parking area will be in order and in conducive condition.
	Pandemic	Implementing covid-19 safety protocols seamlessly and making sure it can be clearly identified by visitors.	Reviewing the implementation of Covid-19 safety protocols regularly and providing safety protocols guidelines in various area.
Negative	Parking	Low capacity of the parking space or unclear signs for directions. Limited payment options and high cost with the addition of poor parking facilities for motorcycle	Expanding the parking area, relocating valet parking areas to fewer desirable places (for example: at the corner of parking lots), creating clear directions, adding more payment systems, creating access with shelter for two-wheeled vehicle, and improving the lighting of parking areas.
	Online Drivers Driver	No parking space for online drivers when taking orders	Providing designated parking spaces for online drivers to take online orders and waiving parking fees for online drivers.
	Shop Tenant	Due to the pandemic, many tenants had to close their stores, resulting in less diversity of good and services	Giving price cuts for tenants during certain situations, carrying out promotions and marketing for tenants to increase customer's impression, and to make collaboration with banks to provide loan with low interest rates.
	Eat	Many restaurants are closed, and the variety of foods seem monotonous, the waiters give bad impression to the visitors	Creating a food bazaar or events with affordable lease rates, adding more variety of cuisines, and improving waiter's service
	Vaccine	unorganized mall entry, complicated vaccine validation without the use of government application.	Making an organized queue on the entrance in order to avoid crowds by simplifying the process of vaccine validation
	Security	Many securities did not do their task properly, resulting in non-existing security and giving a sense of disrespect to the visitors	Ensuring the number of security personnel, applying discipline of duties and responsibilities, and giving guidance on how to greet visitors properly
	Comfort	The facilities such as prayer rooms and parking area are poorly maintained	Improving malls' facilities up to modern standards to further increase customers satisfaction

Customer Journey Map is done by conducting brainstorming and discussions with relevant stakeholder, he is Deputy Chair of APPBI Jakarta for the 2019-2022 Period, as of improvement ideas can be applied by shopping malls. The result of Customer Journey Map can be seen in

Figure 5 for positive sentiment and Figure 6 for negative sentiment. Regarding the attributes in the Customer Journey Map, they are most frequently reviewed by shopping mall visitors and related to giving good or bad ratings in reviews.



Figure 5. Customer Journey Map positive sentiment

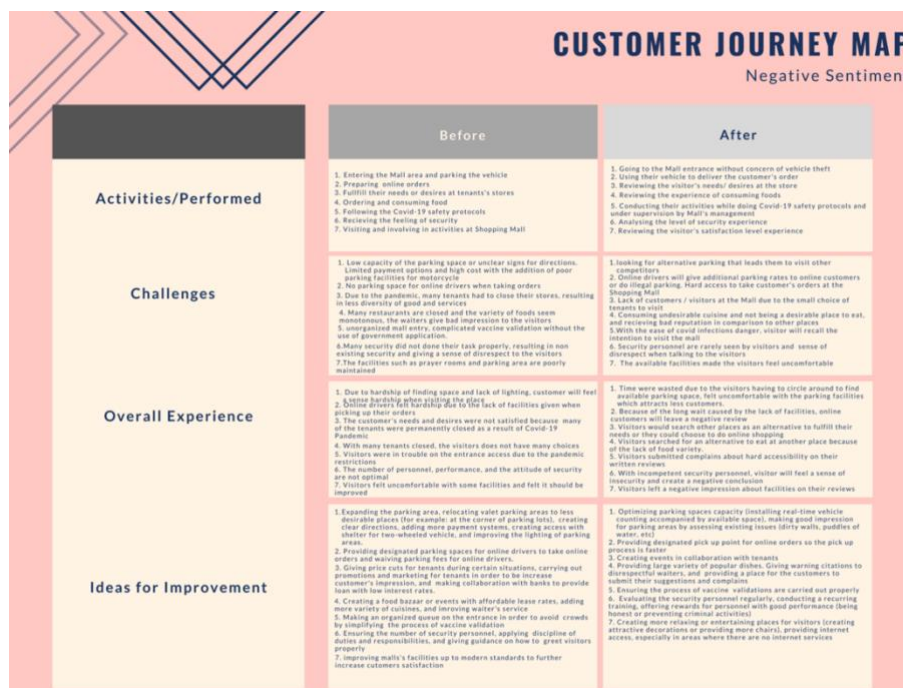


Figure 6. Customer Journey Map negative sentiment

Figure 5 shown the improvement of the consumer journey is demonstrated by the transition from the previous phase to the subsequent phase. At first, consumers were confronted with inefficiencies, sluggish service, and inadequate information, which resulted in a decrease in satisfaction and an increase in convenience. The activities were more structured, the processes were more transparent, and the services were more responsive after the changes were implemented. To facilitate the process, enhanced communication and assistance were implemented. In general, the experience transitioned from satisfactory to excellent, resulting in a greater sense of enjoyment. It is recommended that continuous enhancement be implemented by enhancing the quality, providing more explicit instructions, and enhancing the service.

The customer journey map depicts a shift from a largely poor customer experience to a more enhanced and organized service engagement as shown on Figure 6. Before intervention, consumers faced ambiguous processes, restricted access to information, sluggish response times, and variable service quality, resulting in discontent and diminished confidence. These issues impeded effective interaction and adversely influenced overall opinions of the service. After focused enhancements, the client journey exhibits more transparent processes, superior communication, heightened staff response, and more dependable service delivery. Consequently, client satisfaction improved, interactions became more effective, and trust was fortified. Continuous feedback methods are vital for maintaining service quality and for continuing improvement efforts.

The management of shopping malls needs to pay attention to the perspectives of customers to ensure that the stages of contact between customers and shopping malls are developed with a higher level of efficiency. The implementation of a strategy or policy that takes into consideration the concept of improvement components to boost the level of happiness that visitors have with the interaction experience they have with shopping malls is one way to accomplish this goal. An example of this would be placing a real-time car counting system at the entrances of parking lots, together with signage indicating the availability of space, to avoid lengthy lines of vehicles. The shopping malls could obtain an edge over their rivals by utilizing various attributes and concepts for improvement.

The findings from this study align with existing consumer behavior theories, particularly the Service Quality Model (Anderson and Sullivan, 1993), which emphasize the importance of customer perceptions and experiences in shaping satisfaction and loyalty. Previous works have shown that attributes such as cleanliness, convenience, and overall shopping experience significantly influence consumer sentiment and behaviour in retail environments (Baker *et al.*, 2002; Mokhlis, 2008; Wong, Ng and Wong, 2012; Telci, 2013; Astono, 2014; Rosenbaum, Otalora and Ramírez, 2017). The identification of key attributes from both positive and negative sentiment classes—such as "comfortable," "clean," and "parking"—echoes this theory, highlighting the critical factors that shape customer experiences in shopping malls. Insights derived from the Customer Journey Map (CJM) can inform strategic innovation by providing mall operators with a clear framework to address pain points and enhance positive experiences. For instance, the frequent mention of "parking" in both sentiment classes suggests a pressing area for improvement; addressing this issue could lead to

increased customer satisfaction and loyalty. By leveraging the CJM to visualize customer interactions and sentiments, shopping malls can implement targeted strategies, such as optimizing parking facilities or enhancing cleanliness protocols, ultimately fostering a more customer-centric environment that adapts to evolving consumer expectations in a post-pandemic landscape. This approach not only enhances service delivery but also positions malls to better compete in a rapidly changing retail market.

This study contributes to the field of service innovation and customer behaviour analytics by integrating sentiment analysis of Google Reviews with the development of a Customer Journey Map (CJM) specifically tailored to the Indonesian retail context, particularly shopping malls in Jakarta during the Covid-19 pandemic. By employing the Naïve Bayes Classifier for sentiment classification, the research not only demonstrates the effectiveness of machine learning techniques in processing unstructured review data but also highlights the unique challenges posed by the pandemic to consumer behaviour. The novel integration of these methodologies allows for a comprehensive understanding of customer sentiments and experiences, providing actionable insights for mall operators to enhance service delivery and customer satisfaction. This method not only addresses a lack of research by using advanced analytics in real-life situations in Indonesia but also provides a useful guide for other retail industries dealing with similar issues, helping to improve discussions on service innovation during times of crisis and recovery.

4. CONCLUSION

In this paper, the Customer Journey Map gives improvement ideas related to the attributes of positive or negative sentiment class, which affected visitor reviews. The data that have been collected by using Out scrapper software, as many as 4,580 reviews are processed to get ten attributes with the highest frequency of each sentiment class. The output that has been processed will then be visualized in the form of a bar chart, and the word cloud also will be used as an input in the Customer Journey Map by customizing the reviews from visitors that contain those attributes with the result of improvement ideas from discussion and brainstorming with related stakeholder.

The result of improvement ideas on the Customer Journey Map from discussion and brainstorming with related stakeholders make it recommended for use in management. Research departments from service provider companies can use the method framework to increase the service quality, attract customers, and be superior to other competitors.

While this study provides valuable insights into customer sentiment and experience through the Customer Journey Map, it is important to acknowledge certain limitations that may affect the generalizability of the findings. Firstly, the reliance on Google Reviews as the sole data source may introduce platform bias, as the demographics and behaviors of users on this platform may not fully represent the broader population of shopping mall visitors. Additionally, the data collection was confined to a specific timeframe, from January 11, 2021, to November 11, 2021, which may not capture the evolving consumer sentiments and behaviors as the pandemic situation changed. Furthermore, the focus on shopping malls in Jakarta limits the applicability of the findings to other

regions or types of retail environments, potentially overlooking unique challenges and opportunities present in different contexts. Future research should consider expanding the scope to include multiple shopping centers across diverse locations and timeframes, as well as incorporating reviews from various platforms. The analysis can be more in-depth by using data from other platforms in collecting reviews other than Google reviews, applying research methods to other industrial sectors to produce improvement evaluations, and adding the point of view of the resource person in submitting improvement ideas.

REFERENCES

- Addis, M. (2016) 'Understanding the Customer Journey to Create Excellent Customer Experiences in Bookshops', *International Journal of Marketing Studies*, 8(4), p20. Available at: <https://doi.org/10.5539/ijms.v8n4p20>.
- Anderson, E.W. and Sullivan, M.W. (1993) 'The Antecedents and Consequences of Customer Satisfaction for Firms', *Marketing Science*, 12(2), pp. 125–143.
- Astono, C. (2014) 'The Effect of Shopping Mall's Attributes Toward Customer Satisfaction of ABC Mall and XYZ Mall', *iBuss Management*, 2(2), pp. 99–106.
- Baker, J. et al. (2002) 'The Influence of Multiple Store Environment Cues on Perceived Merchandise Value and Patronage Intentions', *Journal of Marketing*, 66(2), pp. 120–141. Available at: <https://doi.org/10.1509/jmkg.66.2.120.18470>.
- Bano, N.J., Sukwadi, R. and Park, A. (2022) 'Analisis Perbaikan Kualitas Layanan Bluemoon Container CafÃ©: Model Integrasi Analisis Sentimen dan Quality Function Deployment', *Jurnal INTECH Teknik Industri Universitas Serang Raya*, 8(1), pp. 75–82. Available at: <https://doi.org/10.30656/intech.v8i1.4569>.
- Feldman, R. and Sanger, J. (2006) *The Text Mining Handbook: Advanced Approaches in Analyzing Unstructured Data*. Cambridge: Cambridge University Press. [Print].
- Fink, C.R. et al. (2011) 'Coarse- and Fine-Grained Sentiment Analysis of Social Media Text', *Johns Hopkins APL Technical Digest*, 30(1), pp. 22–30.
- Haq, F.U. (2020) 'Penggunaan Google Review Sebagai Penilaian Kepuasan Pengunjung Dalam Pariwisata', *Tornare: Journal of Sustainable and Research*, 2(1), pp. 10–12. Available at: <https://doi.org/10.24198/tornare.v2i1.25826>.
- Ireland, R. and Liu, A. (2018) 'Application of data analytics for product design: Sentiment analysis of online product reviews', *CIRP Journal of Manufacturing Science and Technology*, 23, pp. 128–144. Available at: <https://doi.org/10.1016/j.cirpj.2018.06.003>.
- Louisa, B., Sukwadi, R. and Chen, G.Y.-H. (2021) 'Pendekatan text mining terhadap review pengunjung hotel bintang 5 di Bali selama pandemi COVID-19', *Journal Industrial Servicess*, 7(1), pp. 18–22. Available at: <https://doi.org/10.36055/jiss.v7i1.11294>.
- Maitland, B. (1985) *Shopping Malls: Planning and Design*. 1st edn. University of Virginia: Construction Press. [Print].
- Mokhlis, S. (2008) 'Consumer Religiosity and the Importance of Store Attributes', *Journal of Economics, Business, and Accountancy Ventura (JEBAV)*, 11(1), pp. 25–46.
- Rosenbaum, M.S., Otolara, M.L. and Ramírez, G.C. (2017) 'How to Create a Realistic Customer Journey Map', *Business Horizons*, 60(1), pp. 143–150. Available at: <https://doi.org/10.1016/j.bushor.2016.09.010>.
- Singh, H. and Prashar, S. (2013) 'Factors Defining Shopping Experience: An Analytical Study of Dubai', *Asian Journal of Business Research*, 3(1). Available at: <https://doi.org/10.14707/ajbr.130003>.
- Sugianto, D. (2021) *Mal Tutup Selama PPKM Darurat, Pengusaha: Akan Terjadi Banyak PHK*, *detikfinance*. Available at: <https://finance.detik.com/berita-ekonomi-bisnis/d-5627238/mal-tutup-selama-ppkm-darurat-pengusaha-akan-terjadi-banyak-phk> (Accessed: 24 March 2025).
- Sukwadi, R., Cory, S. and Liang, Y.-C. (2022) 'The Study of Travel Satisfaction in MRT Jakarta During the Pandemic Of COVID-19', *Geojournal of Tourism and Geosites*, 4(1), pp. 191–199. Available at: <https://doi.org/10.30892/gtg.40123-819>.

- Sukwadi, R., Halim, W. and Thu, N.T.B. (2022) 'Quality Service Improvement using Hybrid Big Data Analytics Model: A Case of AYCE Korean BBQ Restaurant', *TEKNIK*, 43(1), pp. 1–7. Available at: <https://doi.org/10.14710/interaksi.%2525v.%2525i.%2525p>.
- Telci, E.E. (2013) 'High shopping mall patronage: is there a dark side?', *Quality & Quantity*, 47(5), pp. 2517–2528. Available at: <https://doi.org/10.1007/s11135-012-9668-5>.
- Williams, J. and Wellbourne-Wood, S. (2005) 'Design for Experience: a New Rationale', *Design and Technology Education: An International Journal*, 11(2), pp. 9–19. Available at: <https://doi.org/10.24377/DTEIJ.article2167>.
- Wong, D.C.B., Ng, H.C. and Wong, M.H. (2012) 'The Relationship between Shopping Mall Attributes, Customer Satisfaction and Positive Word-of-mouth: China Visitors in Hong Kong', *Global Journal of Management and Business Research*, 12(3), pp. 49–62.