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ANALYSIS OF HOUSEKEEPING SERVICE QUALITY IMPROVEMENT USING A LEAN SERVICE APPROACH AT PT XYZ

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Abstract

The hospitality industry faces increasing demands for service quality improvement due to customer expectations for fast, consistent, and high-quality services. The housekeeping department has an important role in maintaining guest satisfaction because it is directly related to room cleanliness, comfort, and readiness. This study aims to analyze waste in the housekeeping service process and formulate improvement recommendations using the Lean Service approach at PT XYZ. This research used a descriptive qualitative method with data collection conducted through observations of Room Attendant activities, interviews with housekeeping staff and supervisors, and work process documentation. The analysis was carried out using process mapping, classification of value added, necessary non value added, and non value added activities, waste identification, and fishbone diagrams. The results showed that the housekeeping process still contained several main wastes, including waiting due to limited linen availability, unnecessary motion caused by searching for equipment, transportation due to movement to storage areas, and overprocessing caused by repeated activities. The discussion indicated that these wastes were influenced by human factors, work methods, materials, and work environment, requiring improvements through trolley standardization, linen management, and staff competency development. This study concludes that the Lean Service approach can improve the effectiveness of housekeeping work processes and support the enhancement of hotel service quality.

Keywords: Housekeeping, Lean Service, Process Mapping, Service Quality, Waste

INTRODUCTION

The hospitality industry is one of the service sectors that has an important role in supporting economic and tourism development. In a service-based industry, service quality is the main factor that determines a company's ability to maintain customer satisfaction and loyalty. Good hotel service quality plays an important role in improving business performance because customers' experiences of the services they receive can influence company success and competitiveness (Harif et al., 2022). Changes in consumer behavior, which increasingly prioritize service experience, encourage hotel companies to continuously improve the effectiveness of their operational processes through the development of more responsive service systems. Customer experience management in the hotel industry needs to consider every stage of the service journey so that the value received by customers can be optimized (Chang & Chiu, 2023).

The development of the hospitality industry indicates a growing need for higher service quality in line with the increase in travel activities. According to the World Tourism Organization (2024), international tourist arrivals reached approximately 1.3 billion visits in 2023, or around 88% of the level recorded before the COVID-19 pandemic. The increase in travel activity has a direct impact on the growing demand for accommodation services that are fast, comfortable, and of high quality. This condition makes competition among hospitality service providers increasingly intense because guests have more options when choosing accommodation. In this situation, hotels are required to optimize all operational activities in order to provide the best service experience to customers. Service transformation in the hospitality industry requires companies to adapt to changing customer needs. Service quality is not only determined by available physical facilities, but is also influenced by the speed, accuracy, and consistency of the service process delivered to guests. Technology-based service quality improvement and modern infrastructure management are important aspects in supporting the future development

of the hospitality industry (Mirčetić et al., 2026). Continuous evaluation of service quality can help companies understand which service aspects need improvement based on customer experience. The development of smart service quality in the hospitality industry also shows that service process management is required so that services can meet customer needs effectively (Ayvaz-Çavdaroğlu et al., 2024).

One operational unit that contributes significantly to hotel service quality is the housekeeping department. Housekeeping is responsible for maintaining cleanliness, tidiness, facility completeness, and room comfort for guests during their stay. Current housekeeping operations increasingly require modern approaches because of changing guest needs and higher service standards in the hospitality industry (Naufal et al., 2024). The quality of housekeeping work is one of the main indicators directly experienced by customers because the guest room is the core product in accommodation services. Optimal implementation of housekeeping services has an important role in maintaining guest satisfaction through the provision of hotel environments that are clean, comfortable, and aligned with service standards (Purnomo & Rahayu, 2025).

The effectiveness of the housekeeping process is strongly influenced by the hotel's ability to manage resources, work procedures, and daily operational activities. Tourists' perceptions of housekeeping service quality are influenced by the hotel's ability to maintain consistency in the cleanliness and comfort of facilities provided to customers (Wijaya et al., 2024). Housekeeping activities basically consist of a series of interconnected work processes, starting from equipment preparation, linen replacement, room cleaning, facility inspection, and room status reporting. Employee competence, job satisfaction, and work environment conditions can influence the performance of housekeeping staff in carrying out hotel operations (Sari et al., 2025). Each stage requires good coordination so that room cleaning can be completed according to the specified time and quality standards.

In housekeeping operations, various activities are still frequently found that can hinder service process effectiveness (Walker, 2021). A high housekeeping workload may cause operational constraints when work processes are not designed effectively and do not consider employee working conditions (Sánchez-Rodríguez et al., 2022). Activities such as waiting for supplies, performing unnecessary movements, and searching for work equipment can make service processes less efficient (Kotler & Keller, 2022). These obstacles can increase job completion time and reduce housekeeping operational effectiveness. Therefore, controlling activities that hinder the process is an important aspect in maintaining stable hotel service quality.

Efficiency issues in service processes are important because the service sector requires speed and consistency in meeting customer needs. Activities that do not add value to a process are known as waste and can hinder the achievement of optimal service quality. The lean service approach in the service sector can be used to improve service efficiency by reducing non value added activities and standardizing operational processes (Putri et al., 2026). In the housekeeping context, waste can arise through ineffective use of time, labor, and resources during work processes. Analysis of hotel service quality shows that identifying service aspects that need improvement is an important part of maintaining customer experience on an ongoing basis (Zhang et al., 2022).

LITERATURE REVIEW

Previous studies have discussed service quality improvement through operational process optimization, particularly in the hospitality and service sectors. Langit and Insanita (2022) showed that the implementation of lean service through value stream mapping in the Food and Beverage Service Department of Hotel X was able to identify waste in the form of overprocessing, motion, defects, and waiting, resulting in a 43% reduction in lead time, a 42% reduction in process time, and a 51% reduction in non value added activities. Shesharedy (2023) showed that the implementation of lean improvement through the 6S approach in housekeeping and linen departments improved workplace orderliness, reduced process waste, and increased service efficiency. Harahap et al. (2023) also showed that the application of lean approaches in hospital services improved service process quality and customer satisfaction by reducing activities that did not provide added value.

In addition to lean service implementation, several studies emphasize the importance of housekeeping management in improving service quality. Kusuma and Semara (2023) showed that the housekeeping department has an important role in improving guest service quality through the management of cleanliness, comfort, and readiness of hotel facilities. Kuhu and Rondonuwu (2025) demonstrated that evaluating housekeeping services based on guest comments on digital platforms can help hotels determine service improvement strategies that match guest needs and experiences. Utami and Khudri (2026) showed that housekeeping contributes to improving hotel service quality through the implementation of cleanliness standards, room readiness, and services that support guest satisfaction.

Based on previous studies, lean service implementation and housekeeping management have been widely discussed in the context of service quality improvement, process efficiency, and customer satisfaction. However, most studies still focus on lean service in general service sectors or discuss the role of housekeeping in service quality without conducting an in-depth analysis of work activities based on value added, necessary non value added, and non value added classifications. Moreover, studies that integrate waste identification, process mapping, and root cause analysis of housekeeping operational activities remain limited. Therefore, this study aims to analyze waste in housekeeping service processes using the lean service approach through work activity identification, process mapping, and improvement recommendations. The results are expected to contribute to improving the effectiveness of housekeeping operational processes and provide a basis for service quality improvement in the hospitality industry.

METHOD

This study used a descriptive qualitative approach to analyze the housekeeping service process based on actual field conditions. This approach was selected because the research focused on identifying work activities, process waste, and factors causing inefficiency in housekeeping operations. The study was conducted in the Housekeeping Department of PT XYZ, with the object of research being guest room cleaning activities carried out by Room Attendants. The analysis covered the entire work process, from equipment preparation and room cleaning implementation to final inspection, in order to identify activities that influence service quality and efficiency.

Data were collected through direct observation, semi-structured interviews, and documentation. Observations were conducted by examining Room Attendant work activities to identify process sequences, work duration, movement patterns, and activities that could potentially cause waste. Semi-structured interviews were conducted with housekeeping staff and supervisors to obtain information regarding operational constraints, factors causing work obstacles, and actual service process conditions. Documentation was carried out by collecting supporting data in the form of standard operating procedures (SOPs), activity records, and housekeeping work process documentation to strengthen the observation and interview results.

Data processing was carried out using the Lean Service approach through several stages of analysis. The first stage involved process mapping to describe the actual housekeeping workflow so that each activity in the service process could be systematically identified. Each activity was then classified into value added (VA), necessary non value added (NNVA), and non value added (NVA) categories to determine activities that provided direct value and activities that had the potential to cause waste. The next stage involved waste identification based on Lean Service principles, including waiting, motion, transportation, overprocessing, defects, inventory, and underutilized talent.

The final stage of analysis used a fishbone diagram to identify the root causes of waste in the housekeeping process based on human, method, material, and work environment factors. The identified causes were then used as the basis for developing Lean Service-based process improvement recommendations. The proposed improvements were directed toward reducing activities that did not provide added value, improving workflow effectiveness, and supporting the improvement of housekeeping service quality at PT XYZ. All analytical stages were conducted systematically so that the research results could represent actual operational conditions and provide recommendations consistent with the problems found.

RESULTS AND DISCUSSION

Results

The results showed that the housekeeping service process at PT XYZ was carried out through several interconnected activity stages to ensure that guest rooms were clean, tidy, and ready for use. Based on direct observations of Room Attendant activities, the work process began with the preparation of the trolley and cleaning equipment, continued with movement to the guest room, room-entry procedures, linen replacement, room area cleaning, final inspection, and room status reporting. Each work stage referred to the standard operating procedures applied by the company. However, observations showed that several supporting activities still required additional time and could potentially cause process waste. The observed housekeeping work activities are presented in Table 1.

Table 1. Observed Housekeeping Work Activities

No	Activity	Time (Minutes)	Description
1	Preparing the trolley and cleaning supplies	5	Preparation of work tools
2	Moving to the guest room to be cleaned	2	Movement to the work location
3	Knocking on the door and ensuring the room is vacant	1	Standard procedure before entering the room
4	Opening the room window or ventilation	1	Air circulation
5	Collecting dirty linen	3	Preparation for linen replacement
6	Replacing and arranging the bed	8	Main cleaning activity
7	Cleaning tables, chairs, and room furniture	5	Dust removal
8	Cleaning glass and mirrors	3	Cleaning glass areas
9	Cleaning the bathroom (toilet, sink, shower)	10	Bathroom cleaning
10	Replacing towels and bathroom amenities	3	Completing amenities
11	Sweeping or vacuuming the floor	4	Floor cleaning
12	Mopping the room floor	3	Final floor cleaning
13	Rearranging room supplies	2	Room facility arrangement
14	Conducting final room checking	2	Ensuring the room is ready for use
15	Closing the room and reporting room status	1	Work reporting

Based on the observation results, housekeeping activities consisted of main activities that directly added value for guests and supporting activities required in operations. Activities such as replacing linen, cleaning bathrooms, cleaning furniture, and arranging room facilities were categorized as value added because they were directly related to the room quality received by customers. Meanwhile, activities such as trolley preparation, movement to guest rooms, final inspection, and room status reporting did not provide direct value to customers but were still required in the service process. Therefore, work activities were analyzed using the Lean Service approach through the classification of value added (VA), necessary non value added (NNVA), and non value added (NVA) activities. The classification of housekeeping activities is presented in Table 2.

Table 2. Classification of Housekeeping Activities Based on Lean Service

No	Activity	Category
1	Preparing the trolley and cleaning supplies	NNVA
2	Moving to the guest room	NNVA
3	Knocking on the door and ensuring the room is vacant	NNVA
4	Opening room ventilation	NNVA
5	Collecting dirty linen	NNVA
6	Replacing and arranging the bed	VA
7	Cleaning room tables and furniture	VA
8	Cleaning glass and mirrors	VA
9	Cleaning the bathroom	VA

No	Activity	Category
10	Replacing towels and bathroom amenities	VA
11	Sweeping or vacuuming the floor	VA
12	Mopping the room floor	VA
13	Rearranging room supplies	VA
14	Final room checking	NNVA
15	Closing the room and reporting room status	NNVA

The activity classification results showed that most housekeeping processes were categorized as value added because they were directly related to the cleanliness, comfort, and readiness of guest rooms. However, several necessary non value added activities still offered opportunities for improvement because they could create waste if not managed effectively. Based on Lean Service identification, the main wastes found consisted of waiting, unnecessary motion, transportation, and overprocessing. Waiting occurred because Room Attendants had to wait for the availability of linen or work supplies, while unnecessary motion occurred due to searching for and retrieving equipment that had not been prepared. Transportation occurred because of movement to storage areas located relatively far away, while overprocessing occurred because of repeated work caused by work methods that were not fully systematic.

Interviews with Room Attendants and housekeeping supervisors strengthened the observational findings regarding obstacles in the work process. The first constraint was related to limited linen and work supplies, which made the room cleaning process less efficient. Informant RA1, a Room Attendant, stated that “sometimes the clean linen on the trolley runs out while there are still several rooms to clean, so we have to return to the linen storage room to take additional linen” (RA1, Room Attendant). A similar condition was explained by informant RA2, who stated that “when hotel occupancy is high, linen usually runs out quickly, so we have to go back to the linen storage room several times to get additional supplies” (RA2, Room Attendant). The housekeeping supervisor also explained that “when there are many rooms to clean, linen distribution is sometimes unbalanced, so Room Attendants have to wait for clean linen to become available before continuing their work” (SPV1, Housekeeping Supervisor).

In addition to linen issues, interviews revealed constraints in the arrangement of work equipment and differences in housekeeping staff experience. Trolley organization that was not optimal caused staff to spend additional time searching for supplies before continuing work. Informant RA1 stated that “sometimes the equipment in the trolley is not arranged neatly, so we have to search for the required tools before continuing the job” (RA1, Room Attendant). From the human resource aspect, work experience also influenced process effectiveness because more experienced staff tended to have more systematic work patterns. This was reinforced by the supervisor’s statement that “Room Attendants who have worked longer usually understand room cleanliness standards better, so their work is faster and neater” (SPV1, Housekeeping Supervisor). These findings indicate that waste in housekeeping was influenced by material, work method, and human resource factors. The analysis of waste causes was then conducted using a fishbone diagram to identify root causes based on man, method, material, and environment factors.

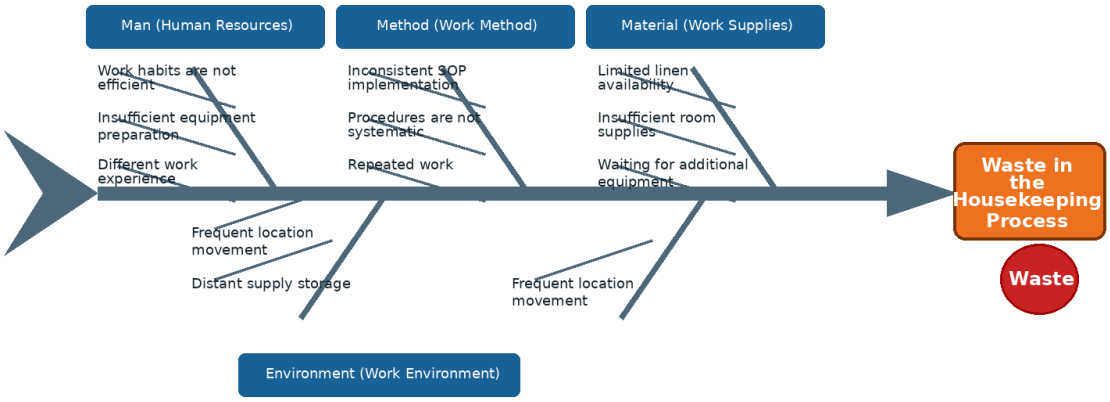

Figure 1. Fishbone Diagram of Waste in the Housekeeping Process

The man factor was related to differences in staff experience and work habits, while the method factor was related to work procedures that had not been applied consistently. The material factor emerged from limited linen and work equipment, while the environment factor was related to the distance of storage areas that caused additional movement. In addition, process mapping showed that the housekeeping workflow still had inefficiency points, especially in equipment preparation and retrieval of additional needs during room cleaning.

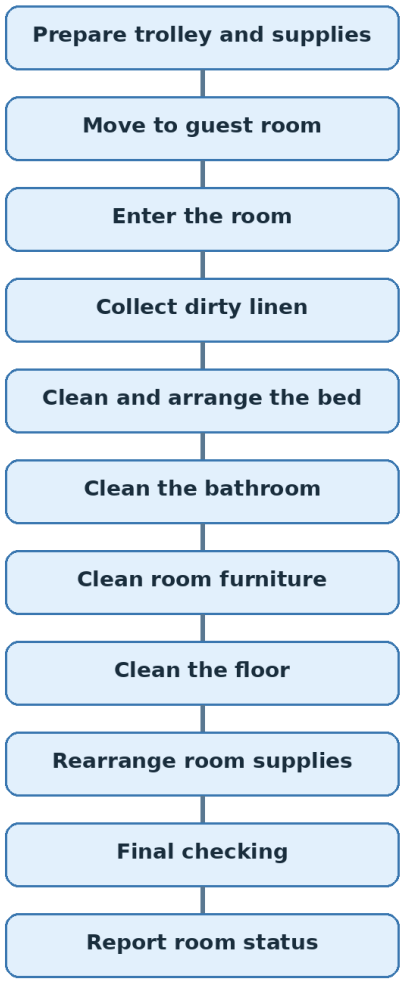

Figure 2. Process Mapping of the Housekeeping Workflow

Based on the fishbone diagram and process mapping, waste in the housekeeping process did not originate from a single main cause, but from a combination of operational factors. Process improvements need to focus on linen availability management, housekeeping trolley arrangement standardization, more consistent implementation of work procedures, and better arrangement of equipment storage areas. These efforts can help reduce activities that do not provide added value so that Room Attendant work processes become more effective. By reducing waste in operations, housekeeping service quality can be improved through work processes that are faster, more systematic, and better aligned with guest needs.

Based on observations of work activities, interviews with housekeeping staff, waste identification, and root cause analysis using a fishbone diagram, several main findings were obtained that describe the condition of housekeeping service processes at PT XYZ. The synthesis of research findings was carried out to connect the operational problems found with the waste categories in Lean Service and to determine suitable improvement recommendations. The synthesis of research findings is shown in Table 3.

Table 3. Synthesis of Research Findings and Lean Service-Based Improvement Proposals

Research Finding	Waste Type	Main Cause	Impact on Process	Improvement Proposal
Room Attendants must wait for linen availability before continuing the room cleaning process.	Waiting	Linen distribution is not optimal and trolley stock does not always meet operational needs.	Room completion time becomes longer and work productivity decreases.	Set a minimum linen stock standard on each trolley and check availability before work begins.

Research Finding	Waste Type	Main Cause	Impact on Process	Improvement Proposal
Room Attendants make additional movements to retrieve missing or insufficient supplies.	Transportation	The supply storage location is relatively far from the room area and work preparation is not optimal.	Movement time increases and productive time for cleaning activities decreases.	Optimize the storage layout and ensure trolley completeness before work begins.
Staff require additional time to search for supplies on the housekeeping trolley.	Unnecessary Motion	Work tools are not arranged systematically and arrangement standards are not consistently applied.	Additional movements occur that do not directly add value to guest service.	Standardize the trolley layout based on work efficiency principles and operational needs.
Several cleaning activities are repeated because the work sequence is not systematic.	Overprocessing	Staff experience differs and work methods are not uniform.	Room completion duration increases and labor use becomes less efficient.	Align work standards through training and consistent implementation of housekeeping SOPs.
Staff ability in carrying out the room cleaning process differs.	Underutilized Talent	Work experience and understanding of efficient work methods are not evenly distributed.	Performance among Room Attendants varies and the work process becomes less stable.	Improve job training and knowledge transfer from experienced staff to new staff.

Based on the synthesis of findings, the application of the Lean Service approach showed that housekeeping service quality improvement could be achieved by reducing activities that did not provide added value in operational processes. Improvements in linen management, trolley standardization, SOP implementation, and staff competency development were the main factors in creating a more effective work process. Therefore, housekeeping process optimization not only affects the time efficiency of Room Attendants but also supports the consistency of service quality received by hotel guests.

Discussion

The results showed that the housekeeping work process at PT XYZ generally followed the established standard operating procedures, but several activities still caused the service process to run less optimally. Based on activity classification using the Lean Service approach, most Room Attendant activities were categorized as value added because they were directly related to the cleanliness, comfort, and readiness of guest rooms. However, several necessary non value added activities, such as equipment preparation, movement to work areas, and final inspection, still had the potential to create waste if not controlled effectively. These findings show that housekeeping service quality is not only determined by the final result in the form of clean rooms, but also by the effectiveness of the work process. This is in line with Kusuma and Semara (2023), who showed that housekeeping plays an important role in improving hotel service quality because its activities are directly related to guest comfort and satisfaction. Similar findings were explained by Utami and Khudri (2026), who stated that successful hotel service is influenced by housekeeping's ability to maintain cleanliness standards, room readiness, and service process consistency.

Waste identification in the housekeeping process showed that the main wastes consisted of waiting, unnecessary motion, transportation, and overprocessing. Waiting waste occurred because of delays in linen availability, while unnecessary motion and transportation occurred because Room Attendants had to make additional movements to obtain supplies that were not available on the trolley. This condition indicates that supporting activities that are not properly managed can increase process time and reduce operational efficiency. These findings support the study by Langit and Insanita (2022), which showed that lean service implementation through value stream mapping in hotel services could identify various wastes such as waiting, motion, defects, and overprocessing so that operational processes could be improved. Prakoso et al. (2025) also showed that the lean

service approach in the service sector can help reduce waste by identifying activities that do not provide added value and improving workflow.

The fishbone diagram analysis showed that the main causes of waste in the housekeeping process came from human, method, material, and work environment factors. Human factors were related to differences in staff experience that caused variations in work speed and accuracy, while method factors emerged from work procedures that were not consistently applied. Material factors, such as limited linen and work equipment, caused waiting time, while environmental factors, such as storage area layout, increased movement activities. These results are consistent with Sheshareddy (2023), who showed that lean improvement through the 6S approach in housekeeping and linen departments could improve workplace orderliness, reduce inefficient activities, and increase service effectiveness. Prajaya et al. (2024) also explained that Lean Management can be applied in service sectors to improve operational quality by reducing process variation and eliminating inefficient activities.

Interview results showed that human resource management is an important factor in determining the success of housekeeping processes. Differences in work experience among Room Attendants caused differences in work patterns, especially in determining the sequence of room cleaning activities and using supplies efficiently. More experienced staff tended to complete work faster because they understood work standards and could avoid unnecessary activities. This finding is in accordance with Adisastra et al. (2024), who showed that training influences housekeeping employee performance by improving understanding, skills, and work quality. Shanhaji and Rahayu (2025) also explained that human resource optimization in the housekeeping department is an important aspect in improving work effectiveness and maintaining hotel service quality.

Process mapping showed that the housekeeping workflow still had opportunities for improvement, especially in the equipment preparation stage and the management of activities before room cleaning began. Inefficiency at the initial stage could affect the entire process because Room Attendants had to perform additional activities that were not directly related to customer value. Process improvement through trolley standardization, linen arrangement, and workflow redesign can support increased operational efficiency. These findings are in line with Walke and Winkler (2024), who explained that process quality is closely related to service performance because good process characteristics can improve service consistency and effectiveness. Setyawan and Widagdo (2024) also showed that housekeeping operational efficiency can be improved through more structured and sustainable work practices.

Improving housekeeping service quality not only affects the company's internal efficiency but also influences guest experience and perception of the hotel. A more effective work process enables rooms to be ready on time, cleanliness standards to be more consistent, and customer complaints to be reduced. These results support the study by Wahyu and Oktaviani (2022), which showed that the service quality of the housekeeping department influences the satisfaction level of hotel guests because room service is one of the main aspects experienced by customers during their stay. Dewi et al. (2025) also found that guest experiences with housekeeping and hotel facilities are influenced by the hotel's ability to maintain comfort, cleanliness, and service quality. Similarly, Giovanni et al. (2022) explained that the housekeeping department has an important contribution to guest satisfaction because it is directly related to customers' perceptions of hotel quality.

Overall, the findings show that Lean Service is a relevant approach for improving the effectiveness of housekeeping processes by reducing activities that do not provide added value. Improvements directed toward linen management, work equipment standardization, staff competency enhancement, and layout optimization can help reduce waste and improve service quality. In addition to focusing on internal operational conditions, evaluation of customer experience is also needed so that process improvements remain aligned with service users' needs. This is consistent with Kuhu and Rondonuwu (2025), who showed that evaluating housekeeping services based on customer comments can serve as a basis for determining service quality improvement strategies. Harahap et al. (2023) also proved that lean approaches in service sectors can improve service quality and customer satisfaction through more efficient processes.

This study has several limitations that should be considered when interpreting the results. First, the research was conducted only in the Housekeeping Department of PT XYZ, so the findings cannot yet describe the entire operational process of other hotel departments. Second, the analysis focused on waste identification and the development of improvement recommendations, and therefore did not quantitatively measure performance changes after improvement implementation. Third, the data were obtained through observations and interviews during a specific period, so changes in operational conditions such as hotel occupancy and workload may produce different findings. Therefore, future research should evaluate the results after Lean Service implementation and integrate quantitative indicators such as process time reduction, productivity improvement, and changes in customer satisfaction levels.

CONCLUSION

This study concludes that the housekeeping service process at PT XYZ generally operates according to standard operating procedures, but several activities still cause work process inefficiency. The Lean Service analysis showed that the main wastes consisted of waiting due to limited linen availability, unnecessary motion due to searching for work supplies, transportation due to movement to storage areas, and overprocessing caused by repeated activities. The fishbone analysis showed that these wastes were influenced by human, work method, material, and work environment factors. Therefore, improvements are needed through housekeeping trolley standardization, optimization of linen management, consistent SOP implementation, and staff competency development. The implication of this study is that Lean Service can be used as an approach to help the hospitality industry improve operational process efficiency and maintain service quality for guests. The limitation of this study is that its scope focused only on the Housekeeping Department of PT XYZ and it did not measure performance after improvement implementation. Future research is recommended to conduct a quantitative evaluation of Lean Service implementation using indicators such as process time reduction, work productivity improvement, and changes in customer satisfaction levels.

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