

Optimization of layout design at ciseke food court using facility management principles with design thinking method and activity relationship chart

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Abstract

The increasingly dynamic and growing development of the culinary industry has created a high level of competition in this business sector. As a province producing culinary businesses in Indonesia, West Java is in second place as a province producing culinary businesses in Indonesia with a total of 1,414 businesses spread out. This is because most of the areas in West Java are large educational areas, one of which is located in the Jatinangor area. One of the most famous culinary centers in the Jatinangor area is Pujasera Ciseke which is a favorite destination for students for culinary delights. However, problems such as a lack of layout arrangements that hinder accessibility and unavailability of cleaning facilities are quite serious problems that can result in decreased customer loyalty. Based on these problems, this research aims to design and redesign the layout by adding cleaning facilities using AutoCAD software. The research method used is a qualitative technique with descriptive analysis using a Design Thinking approach to produce clear and accurate research.

Keywords: Culinary, design thinking, jatinangor, ciseke food court

Introduction

The culinary industry is one of the most dynamic and rapidly growing business sectors, with intense competition in the current market. The advancement of the industrial and business world has made competition in this industry very tight. According to data from the Central Statistics Agency in 2022, there are 11,223 culinary businesses spread throughout Indonesia, with details of 8,042 businesses (71.65 percent) being restaurants or eateries, 269 businesses (2.40 percent) being catering services, and the remaining 2,912 businesses (25.95 percent) falling into other categories. Based on the provinces producing culinary businesses in Indonesia, West Java ranks second with a total of 1,414 businesses spread across the province. This is because a significant part of West Java is a major educational area, one of which is located in the Jatinangor area (Diyanto, 2023) ^[1].

Currently, Jatinangor is one of the major educational areas in the province of West Java. This statement is supported by the Decree of the Governor of West Java No. 583/SK-PIK/189 regarding the designation of the Jatinangor area as a higher education area. This is due to the presence of several universities such as Padjadjaran University (Unpad), Bandung Institute of Technology (ITB), Institute of Public Administration (IPDN), and Indonesian Cooperative Institute (Ikopin), making Jatinangor a region with rapid business development in the culinary industry. The large number of students from various regions across Indonesia provides opportunities for the culinary industry to grow rapidly, while also posing challenges for MSME players in the culinary field due to differences in taste preferences and menu variations.

One of the strategies implemented by MSME players in the culinary field is to adjust tastes and vary the menu according to market needs. The existence of food courts or food centers serves as an ideal platform for MSME players to reach consumers more effectively by offering a variety of food choices in one centralized location and offering diverse menus. However, the layout design needs to be considered

in planning an efficient and optimal layout to facilitate customer access (Saputri, Arifianti, and Damayanti, 2022) ^[2].

Therefore, this mini-research takes a research object at a place called Pujasera Ciseke, located at Jalan Ciseke Besar No.131, Sayang, Jatinangor, Cikero, Kec. Jatinangor, Sumedang Regency, West Java, by applying facility management principles to layout design to optimize customer experience (Jacksons, Lestari, and Pebriano, 2022) ^[3].

Methods

The research method used in this study is a qualitative approach with descriptive analysis. This research is designed to provide an in-depth and detailed understanding of the phenomenon being studied, aiming to produce clear and accurate findings. Descriptive research is used to describe the characteristics of the phenomenon without manipulating variables, providing a clear and comprehensive picture of specific situations, events, or conditions. To clarify the flow of the research process, a conceptual framework is used. The descriptive research method is an approach that aims to describe or depict existing phenomena without making in-depth conclusions or interpretations about the causes or relationships between variables. The population is the generalization area consisting of objects or subjects with certain qualities and characteristics set by the researcher to be studied and concluded (Sugiyono, 2017). The target population in this study is students who purchase products at Pujasera Ciseke on April 15-16, 2024, from 13.00 to 17.00, totaling 100 people. To narrow down the sample to a more specific target, the Slovin method with the Krejcie Table is used.

The sampling technique used is simple random sampling. According to Sugiyono (2018) ^[13], simple random sampling is straightforward because the population is randomly selected without considering the existing strata, giving each sampling unit an equal chance to be a sample or represent the population. The data collection techniques used include

interviews, observation, documentation, and surveys. Interviews involve collecting data through direct interaction between the researcher and respondents, either face-to-face or by phone, with structured or unstructured interviews. Observation involves collecting data through direct observation by the researcher of behavior, interactions, or certain conditions in the field. Documentation involves collecting data through the analysis of existing documents or other written materials relevant to the research subject. Surveys involve collecting data through questionnaires distributed to respondents to support predetermined hypotheses. The analysis tool stage aims to visualize the needs derived from the system process and analysis into a two-dimensional design tailored to customer preferences and inputs based on questionnaires distributed using AutoCAD software. AutoCAD is chosen as the analysis tool due to its popularity and extensive use in engineering, architecture, and design industries, including redesigning the layout of Pujasera Ciseke

discussion of the research were obtained through a Design Thinking approach consisting of four main stages: Empathize, Define, Ideate, and Prototype. The detailed explanation of each stage is as follows:

Empathize

In this stage, the researchers focus on gathering information and observing user experiences. The goal is for the researchers to empathize with the users, thus being able to understand their perspectives. One way to do this is by conducting surveys through questionnaires. In the process of gathering information, the researchers selected samples with criteria of students from Universitas Padjadjaran, Bandung Institute of Technology, IPDN Campus, and IKOPIN Campus who are customers of Pujasera Ciseke. This selection ensures that the evaluation covers the entire target user group. The assessment uses the Likert Scale standard, where respondents answer questions by selecting values between 1-5 with the following interpretations:

Table 1: Rating Indicators

Value	Interpretation
1	Very Poor
2	Poor
3	Fair
4	Good
5	Very Good

The respondents answered 5 multiple-choice questions presented as follows

Result and discussions

Pujasera Ciseke is a food center or food court located at Jalan Ciseke Besar No.131, Sayang, Jatinangor, Cikeruh, Kec. Jatinangor, Sumedang Regency, West Java. It has around 13-14 food stands selling various types of food and beverages ranging from traditional to modern dishes, which visitors can enjoy at affordable prices. Pujasera Ciseke operates daily from 10:00 AM to 11:00 PM, with menu prices relatively affordable for students. The results and

Table 2: Questionnaire Questions List

No	Question
1	In your opinion, is it comfortable to be in the ciseke food court for a long time?
2	In your opinion, what is the layout of the ciseke food court?
3	In your opinion, what are the hygiene facilities in the ciseke food court?
4	In your opinion, how is the accessibility of the ciseke food court
5	In your opinion, is it necessary to build hygiene facilities such as public bathrooms and sinks



Fig 1: Recapitulation of Question 1

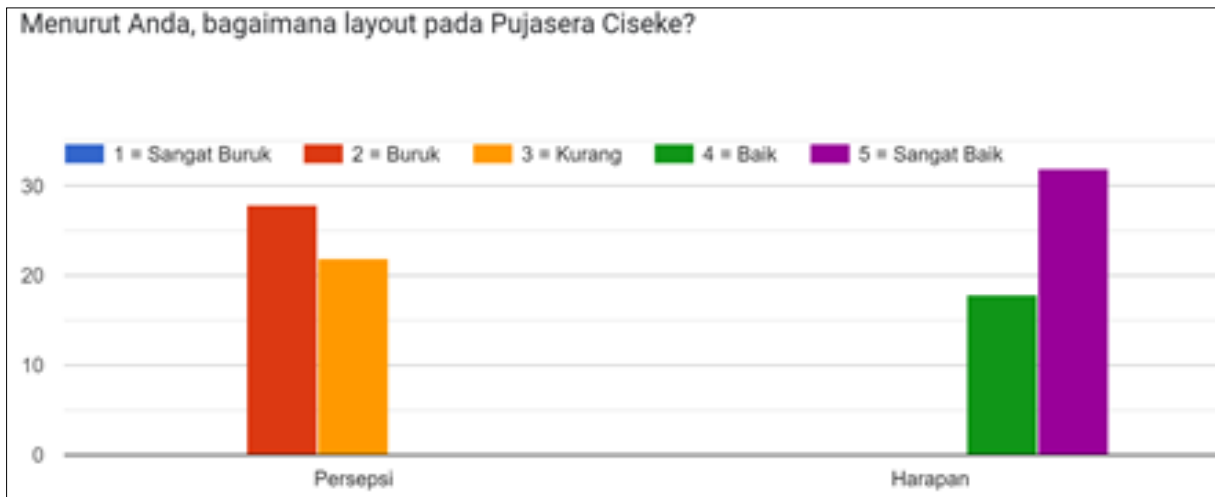


Fig 2: Recapitulation of Question 2

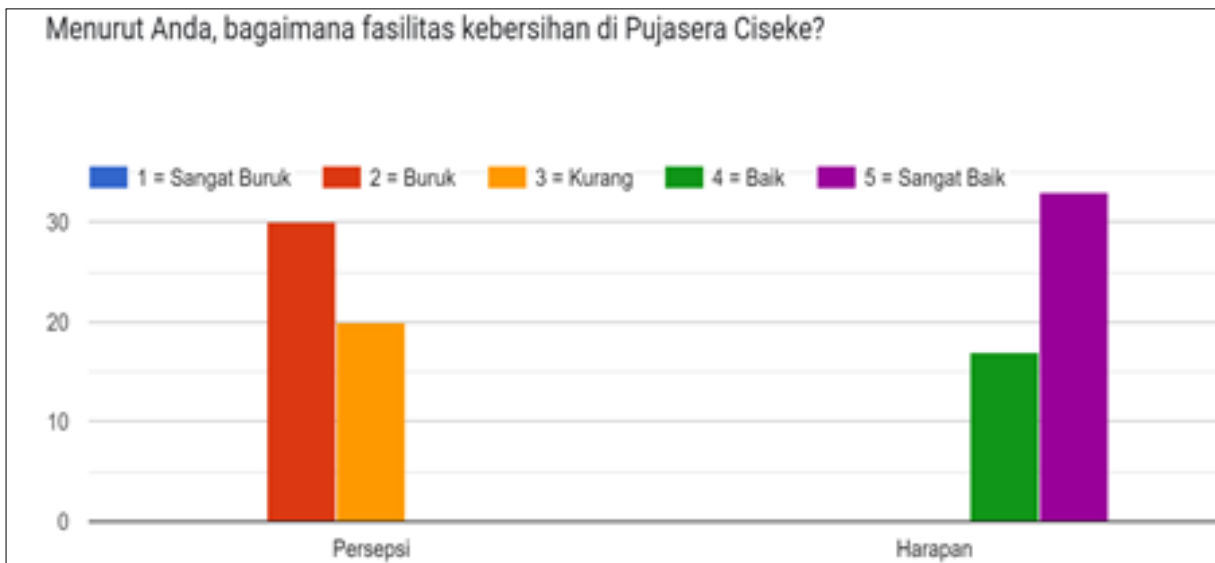


Fig 3: Recapitulation of Question 3

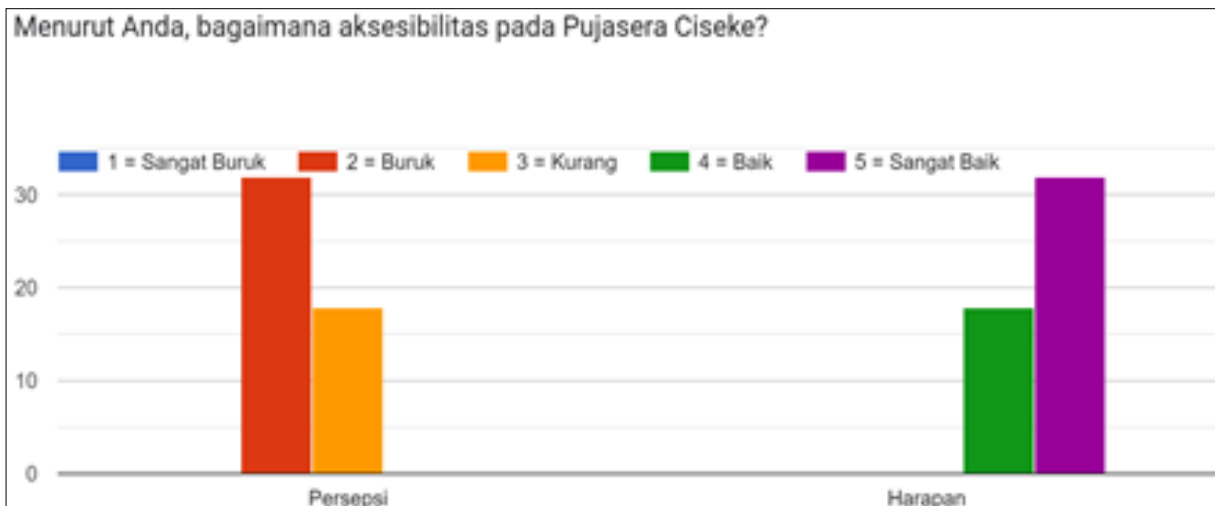


Fig 4: Recapitulation of Question 4



Fig 5: Recapitulation of Question 5

Define

After completing the information gathering stage, the researchers proceed to identify the collected information. This identification process helps pinpoint the core problems,

which will become the main objective in the layout redesign process of Pujasera Ciseke. The results of this stage are the categorization of problems to facilitate finding effective solutions.

Table 3: Problem Identification

Problems	Category
Lack of customer comfort when in the ciseke food court for a long time	Service Facilities
Unattractive layout	Room Facilities
Inadequate cleanliness	Cleaning Facility
Limited accessibility	Room Facilities

Ideate

In this third stage, the researchers generate ideas to solve the problems through brainstorming sessions with the team and relevant stakeholders. After brainstorming with the business

owner and customers, the researchers obtain solutions to the problems and identify the main objectives for redesigning the layout of Pujasera Ciseke, as presented in the following table.

Table 4. Problems and Solutions

Done	Complete
Customers do not feel comfortable when they are in the ciseke food court because of the unattractive layout and accessibility.	Designing and redesigning the layout of the cipete food court.
Unavailability of public hygiene facilities such as bathrooms, sinks, and trash cans	Utilizing cleaning facilities in the latest design of the ciseke food court layout

Additionally, based on the solutions and analysis from the literature review on redesigning food courts based on user activities and behaviors, several aspects are used in redesigning the food court area, including:

1. Strategic Location

The building or layout must be easily accessible to customers.

2. Safety Principles

The building and rooms must be equipped with various safety facilities, such as fire extinguishers.

3. Comfort Principles

The layout must be designed with various facilities that ensure customer comfort, such as lighting, tables and chairs, and audio systems.

Prototype

In implementing the design thinking methodology, the prototype stage plays a crucial role as an experimental phase to test and develop ideas visually. The use of software such as AutoCAD offers an efficient and highly precise approach to creating detailed conceptual models. By combining creativity with technology, using AutoCAD in the prototype stage allows for detailed visualization of the layout and spatial arrangement at Pujasera Ciseke, as well as identifying the most effective solutions before physical implementation. The following images present the before and after designs of Pujasera Ciseke.

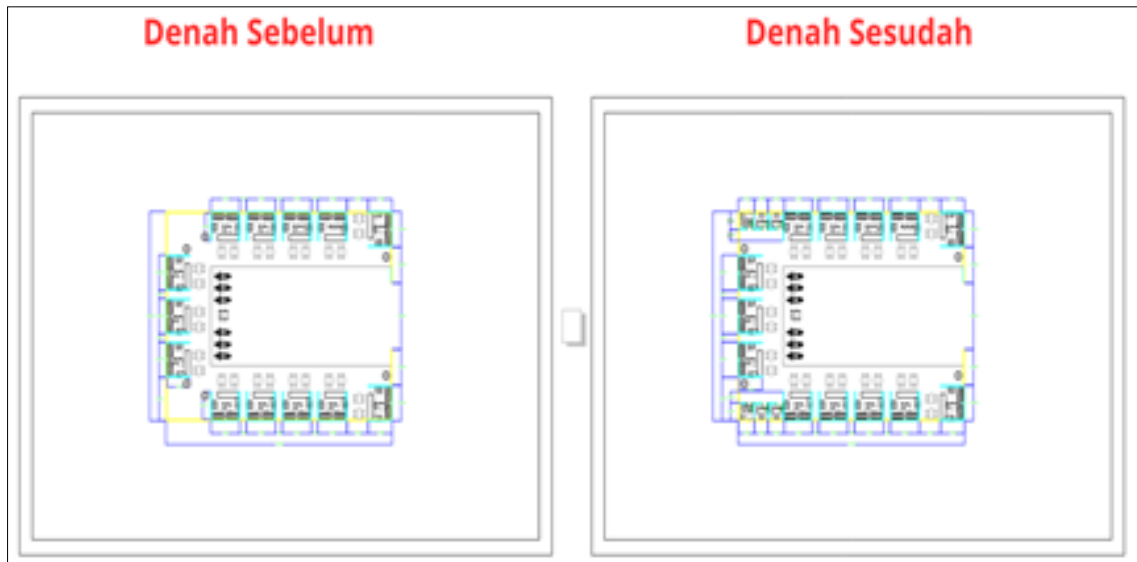


Fig 6: Layout Design Comparison Before and After

Based on the image above, the comparison between the layout design before and after the redesign at Pujasera Ciseke can be seen in the addition of cleanliness facilities such as toilets, sinks, and trash bins at several points. These cleanliness facilities were built after considering complaints, suggestions, and feedback from customers obtained through Google Forms surveys, interviews, and direct observations.

Next, an Activity Relationship Chart (ARC) analysis was conducted to illustrate the workflow and relationships between each food stall and other available facilities such as cleanliness facilities and parking lots. The following image shows the Activity Relationship Chart (ARC) at Pujasera Ciseke.

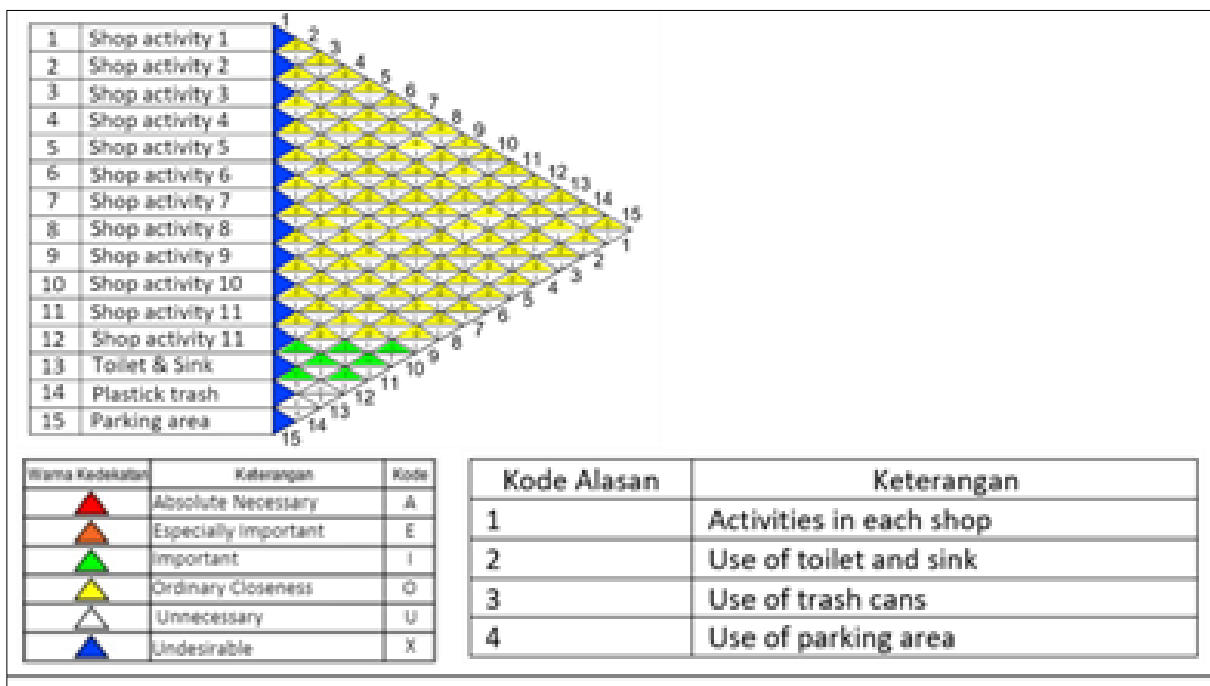


Fig 7: Activity Relationship Chart (ARC) at Pujasera Ciseke

Based on the research conducted using the Activity Relationship Chart (ARC), the information about the interrelationship of each facility is as follows:

1. Stall to Stall

The relationship between stalls is generally neutral because, despite their proximity, they tend to operate independently.

2. Stall to Toilet and Sink

The relationship between stalls and toilets is not very significant because customers can use the nearest toilet.

3. Stall to Trash Bin

The relationship between stalls and trash bins is quite important because each stall needs easy access to dispose of waste.

4. Stall to Parking Lot

The relationship between stalls and the parking lot is very important as easy access to the parking lot affects customer convenience.

5. Toilet and Sink to Trash Bin

The relationship between toilets and sinks with trash bins is quite important to ensure cleanliness and customer comfort.

6. Trash Bin to Parking Lot

The relationship between trash bins and the parking lot is not very significant because trash bins are usually placed in strategic areas accessible to all stalls.

Conclusion

Based on the research results, there are three selected aspects deemed urgent by customers and business owners at Pujasera Ciseke: strategic location, security principles, and comfort principles. The criteria to be implemented in the redesign of Pujasera Ciseke are as follows. The placement of stands, seating, and dining tables will be made strategic to ensure customers and business owners can easily reach and access the locations. Additional cleanliness facilities such as sinks, public restrooms, and trash bins will be installed. Each stand at Pujasera Ciseke will be given a numbered sign to make it easier for customers to place orders and make payments.

The redesign of Pujasera Ciseke aims to create a more attractive, comfortable, and competitive environment for visitors. Suggestions for this redesign include improving facilities and services, adding open areas and green spaces, enhancing safety and security, and collaborating with local businesses. Through this layout redesign, Pujasera Ciseke is expected to become a more visitor-friendly destination, maintain the diversity of local food products, and strengthen ties with the local community.

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