

Geriatric Clinic Business Opportunities in Bandung: Is it Worth Developing?

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Abstract

Purpose: This study aims to evaluate the feasibility of developing the Bandung Geriatric Centre (BGC) Primary Clinic, which focuses on holistic health services for the elderly, given the increasing elderly population and the complexity of their health needs.

Methodology/approach: This study was conducted with a quantitative approach using demographic data, market analysis, location study, technology evaluation, government regulation review, and financial projections. Analyses covered market, operational, human resources, legal, and financial aspects.

Results/findings: The results show that the development of BGC is feasible. The market aspect shows good growth potential, the strategic location supports operations, the medical personnel fulfill the service needs, and the legality is in accordance with regulations. From a financial perspective, the project showed a positive value with a Payback Period of 4.03 years, NPV of IDR 428.8 million, and IRR of 15.73%.

Conclusion: Bandung Geriatric Centre (BGC) Primary Clinic is considered feasible to develop based on the analysis of market, operational, human resources, legal, and financial aspects, with large market potential, strategic location, availability of sufficient human resources, legal compliance, and profitable financial projections.

Limitations: This study remains valid despite the limitations of reliance on secondary data, the scope of competitor analysis being limited to a 2.5 km radius, and financial assumptions that are subject to change due to economic dynamics.

Contribution: This study contributes to the development of an integrated holistic approach-based elderly health service model, and is useful for health practitioners, investors in health services, and policy makers.

Keywords: *Clinic development, Business feasibility, Geriatric clinic, Financial analysis.*

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1. Introduction

Changes in Indonesia's demographic structure reveal a notable trend: an increase in the proportion of old persons. According to the Central Statistics Agency, the number of senior persons in Bandung City will exceed 290,000 by 2023, with an additional 492,000 people classed as pre-elderly, aged 45-59 (Dinas Kesehatan Kota Bandung, 2022). The combination of these two groups represents a sizable potential market for geriatric health services. However, the growing elderly population not only creates opportunities but also presents significant problems to the health-care system (Kemkes RI, 2019),

particularly in terms of delivering comprehensive preventive, diagnostic, curative, and rehabilitative treatments. The elderly differ clinically from the general population in that they are likely to have complex chronic conditions (Permenkes No. 79, 2014). The elderly's well-being can be reflected in their health state, both physically, spiritually, and socially, allowing everyone to live effectively socially and economically (Masfi et al., 2023).

In this scenario, the availability of a dedicated geriatric healthcare centre is critical. Bandung Geriatric Centre (BGC) Primary Clinic was created in 2022 to meet this requirement. The clinic provides a comprehensive service strategy that emphasises the necessity of interdisciplinary teamwork in preventing polypharmacy and diagnostic mistakes in senior patients (Faeni, Puspitaningtyas, & Safitra, 2021). BGC is more than just a treatment facility; it is also a centre for the prevention and management of chronic illnesses in the elderly. The aims of the service were: to understand how the elderly can search, understand, and apply the health information they obtained; optimise how the elderly accessed health services; and increase the knowledge and interest of the elderly in accessing the nearest primary health services (Setyaningsih Sunardi et al., 2024). The clinic's strategic location in the heart of Bandung City, as well as its ease of access, place it in a competitive position for offering health services. The clinic's service coverage area is placed within a 2.5-kilometer radius, with more than 130,000 elderly residents as the primary target market (Thalib, 2022).

Although the market opportunity appears attractive, the construction of this facility will necessitate a thorough business investigation. In the field of healthcare industry, particularly clinical services, decisions to expand or develop cannot be made solely on intuition or assumptions. A detailed review of several aspects of viability is required, such as market and marketing, operations, human resources, legalities, and financing. Unfortunately, there are still relatively few academic studies that thoroughly investigate the feasibility of establishing a geriatric clinic, particularly in the context of a large city like Bandung. This is the research gap that this study seeks to address. There are insufficient research that may be utilised as a reference when making strategic decisions for investment and development of geriatric clinic services (Hardianto & Anggriawan, 2023).

The primary issue in this study is whether the growth of the Bandung Geriatric Centre (BGC) Main Clinic is feasible from a business standpoint. To answer this topic, the framing of this research problem focuses on five major questions: (1) How feasible is the development of the BGC Main Clinic from a market and marketing standpoint? (2) How feasible are the operational aspects? (3) What is the availability and sufficiency of human resources for service development? (4) Has the BGC Clinic followed all legal requirements and related regulations? (5) What is the financial viability of developing this clinic in terms of planned investment and return on capital?

Based on the problem formulation, the primary goal of this study is to undertake a quantitative feasibility analysis of the development of the Bandung Geriatric Centre (BGC) Main Clinic utilising current data. This study seeks to provide a detailed evaluation of the clinic's possibility for continued development from multiple perspectives. The study's findings are likely to be valuable as a resource for clinic owners, investors, and other stakeholders when making strategic decisions, as the stakeholderscape made a huge contribution to healthcare, with the strongest predictor emerging (Tappy & Mandagi, 2024). Furthermore, the findings of this study can help to advance the academic literature on business feasibility studies in the sector of health services, particularly geriatric health services, which are still understudied in depth in Indonesia (Putri, Wulan, Fihartini, Ambarwati, & Pandjaitan, 2022).

2. Literature review

This literature review outlines the relevant theories in management that underpin this research, divided into three categories: grand theory, middle-range theory, and applied theory. Grand theory provides a comprehensive understanding of social phenomena in general, while middle-range theory is more focused on a particular subject, and applied theory is practically oriented to solve real problems (Adnyana I Made, 2020).

2.1 Management theories

Management is the process of planning, organizing, directing, and controlling resources to achieve goals effectively and efficiently (Arifuddin et al., 2023). Effectiveness means achieving the right goals, while efficiency uses optimal resources without waste. The main functions of management include planning, organizing, directing, and supervising, which support each other to achieve organizational success (Muslichah Erma Widian, 2020). Management principles include division of labor, authority, discipline, and placement of people according to competence, which ensures operational efficiency and effectiveness (Iljasmadi, 2022). Management elements consist of people, money, raw materials, machines, methods, and markets. Humans, as the main element, supported by other resources, enable organizations to run optimally with the right strategies and methods (Taufik Bahaudin & Arie Prabawati, 2023). Through the application of good management principles and functions, organizations can achieve their goals in a structured and efficient manner (Rahman et al., 2022).

2.2 Organization theories

An organization is a deliberate arrangement of individuals to achieve a specific goal, such as a hospital, college, or bank. Organizations provide benefits such as improving people's quality of life, making it easier to achieve goals, creating career opportunities, and becoming a forum for increasing knowledge (Arifuddin et al., 2023). The organizational environment includes internal and external factors that affect performance. The internal environment includes employees, the board of commissioners, and shareholders, which can be controlled by management. In contrast, the external environment consists of micro elements, such as competitors, customers, labor markets, providers, and financial institutions, as well as macro elements, such as technological, economic, political, social, and international factors, most of which cannot be controlled (Muslichah Erma Widian, 2020).

The relationship between the organization and the environment is explained through the dimensions of the degree of change (stable-dynamic) and the degree of homogeneity (simple-complex), which affect the organization's strategy in adapting. The organizational structure, i.e., the system of tasks, reporting, and communication, is influenced by the organization's size, strategy, technology, and employee skills. Good structural design ensures smooth operations and efficient achievement of organizational goals (Harahap & Sunarji, 2018).

2.3 Strategic management theories

Strategic management is the process of designing, monitoring, and evaluating an organization's strategy to achieve sustainable long-term goals (WHO, 2021). It includes strategic planning, environmental analysis, and strategy implementation to adjust to the dynamics of the business environment (Wijaya, 2018). Strategy is a comprehensive approach to optimally allocate resources to face external opportunities and threats, and capitalize on internal strengths (Taufik Bahaudin & Arie Prabawati, 2023). Strategy involves making critical decisions based on complex analysis to achieve a sustainable competitive advantage (Kurniasih et al., 2021). The scope of strategic management includes analyzing internal and external impacts on the company, using strategy as the basis for decision-making related to expansion and profitability, and implementing strategy in various organizational functions such as production, marketing, and finance (Suyanto et al., 2018). Vision and mission act as guidelines to direct the organization towards the desired goals and reflect the values and expectations of key stakeholders, providing motivation and consistency of direction throughout the organization (Suhardi, 2018).

Strategic planning is a long-term process for formulating organizational direction, determining priorities, and allocating resources effectively in the face of various environmental conditions (Muslichah Erma Widian, 2020). This process involves vision evaluation, environmental analysis, strategic plan development, implementation, and ongoing evaluation. Decision-making in strategic management involves problem identification, analysis of relevant data, development and evaluation of alternatives, selection of the best option, implementation of decisions, and evaluation of results for continuous improvement. The involvement of subordinates is important in improving the quality of decisions through the contribution of ideas and collaboration (Iljasmadi, 2022).

2.4 Clinic concepts

Clinics are health care facilities that provide basic and/or specialized medical services, in accordance with Permenkes RI Number 9 of 2014 (Permenkes No. 9, 2014). Based on their type, clinics are divided into primary clinics that provide basic medical services and primary clinics that offer specialized medical services or a combination of both. Clinics can be owned by the government, local government, or the community, with certain requirements related to ownership status and type of services. The location of clinics is regulated by the local government to meet service needs based on population ratios, and must comply with environmental health regulations. (UU No. 17, 2023). Clinic buildings must be permanent, separate from individual residences, and meet safety, comfort, and accessibility standards, especially for vulnerable groups. Clinics must provide spaces such as registration, consultation, administration, action, and sanitation facilities in accordance with technical standards. Inpatient clinics also require additional spaces such as pharmacy, laboratory, kitchen, and inpatient rooms with a capacity of 5-10 beds (Permenkes No. 67, 2015).

Clinic infrastructure includes sanitation installations, electricity, air conditioning systems, lighting, medical gas, fire prevention, and ambulances for hospitalization. Clinics must be equipped with appropriate health personnel, including medical, nursing, pharmacy, nutrition, and other health personnel. Each medical and health worker must have a Registration Certificate and a License to Practice, and work according to professional standards and ethics. Medical and non-medical equipment at the clinic must meet quality and safety standards and be tested and calibrated regularly. Inpatient clinics are required to have pharmaceutical and laboratory installations, while outpatient clinics are optional. All pharmaceutical and laboratory services must comply with applicable laws and regulations (Rauf & Andriyani, 2023).

2.5 Business feasibility study theories

A business feasibility study is a thorough evaluation to assess the feasibility of a project or venture from various relevant aspects. A feasibility study aims to evaluate the benefits, risks, and social and economic impacts of a business, so that it can help determine whether a project is worth running, overhauling, or canceling. The study includes an evaluation of legal, economic, cultural, market, technical, management, and financial aspects to provide comprehensive guidance (Samsurijal Hasan et al., 2022). The main benefits of a business feasibility study are minimizing the risk of loss by identifying potential problems early on, simplifying business planning and execution, improving supervisory effectiveness, and assisting decision-making in organizational control (Nurul Ichsan et al., 2019). In addition, feasibility studies provide benefits not only for business people but also for investors, creditors, company management, government, and society. Investors use the results of this study to assess the potential return on capital, creditors use it as a basis for granting credit, while the government and the community use it to ensure that the business does not harm the environment and has a positive impact on the local economy (Kasmir & Jakfar, 2020).

The scope of a business feasibility study covers various important aspects. Legal aspects ensure the legality of the project, including location permits, deeds of incorporation, and other requirements. Economic and cultural aspects evaluate the impact of the business on the community and local economy. Market and marketing aspects assess the market potential, segmentation, purchasing power, and marketing strategy. Technical aspects cover technology selection, production layout, and quality control. Management aspects examine organizational governance, including human resources and financial management. Finally, financial aspects focus on capital requirements, cash flow, cost of capital, and sensitivity analysis to ensure the financial sustainability of the venture. A business feasibility study is an essential strategic step to ensure the success and sustainability of a project or venture (Daoed. T. Syahril et al., 2021).

3. Research and methodology

3.1 Sampling

The target population in this study is patients, as patient satisfaction is a significant measure of the quality and effectiveness of healthcare services offered by primary health centres (Langi et al., 2023), medical personnel, non-health personnel, and the surrounding community related to the Bandung Geriatric Centre (BGC) Main Clinic. The context of this research focuses on the feasibility study of the development of the BGC Clinic, which includes market and marketing, operations, human resources, legality, and financial aspects aims to analyse capital budgeting and business feasibility for its development strategy (Masitoh et al., 2020). The units of analysis in this study are individuals and organisations that have a direct relationship with the BGC Clinic, including clinic managers, medical personnel, patients, and related agencies such as social and health services. The sampling method used in this research is purposive sampling. This technique was chosen because it allows researchers to select informants who are considered to have information relevant to the research topic.

The informants in this study consisted of:

1. Key Informants: The Director of BGC Clinic, medical and non-medical personnel at the BGC Clinic.
2. Additional :Patients, patients' families, neighbouring communities, as well as social and health agencies who provided insights on the clinic's service needs and its impact on the community.

The profile of respondents in this study consisted of:

1. Clinic Director : Has insight into the legal and investment aspects of the clinic.
2. Medical Personnel : Provide information on health services and operational constraints.
3. Non-Medical Staff : Provide data on administrative constraints and patient management.
4. Patients & Families : Provide feedback on the quality of services received.
5. Community : Provide information on the accessibility and benefits of the clinic to the neighbourhood.
6. Health Office : Provides insight into regulations and social security support for patients.

3.2 Data collection

The data collection methods in this study include:

1. Interviews : Conducted with key, main, and additional informants to obtain information related to market and marketing, operations, human resources, legal, and financial aspects.
2. Observation : The researcher made direct observations of the clinic facilities, services provided, and interactions between medical personnel and patients.
3. Documentation : Secondary data collection from various sources such as clinic reports, government regulations, and academic literature to support the analysis.

3.3 Measurement

In this study, measurements were conducted using a quantitative approach that aims to test the theory and provide a statistical description of the feasibility study of the BGC Clinic development. The measured aspects include:

3.3.1 Market and marketing aspects:

1. Demographics and patient population projections
2. Competitor data and competitive analysis
3. Scope of clinic services
4. Market potential of the clinic

3.3.2 Operation aspect:

1. Location and zoning analysis
2. Layout and development design
3. Equipment and technology used

3.3.3 Human resource aspect:

1. Availability of medical and non-medical personnel
2. Ratio of medical personnel to regulatory standards

3.3.4 Legality:

1. Compliance with regulations and licences
2. Legality of clinic establishment and development

3.3.5 Financial aspect:

1. Investment and source of funds
2. Cash flow and profit, and loss
3. Net Present Value (NPV) and Internal Rate of Return (IRR) \

4. Results and discussion

4.1 Feasibility analysis of Bandung Geriatric Center (BGC) main clinic development from market and marketing aspects

4.1.1 Demographics and patient population projections

The analysis shows that Bandung City has a growing population, with the total population in 2023 reaching 2,569,107 people, which reflects a large market potential. The population density of 15,354 people/km² indicates a dense area with the potential for a large number of patients (Bandung Statistical Center, 2023).

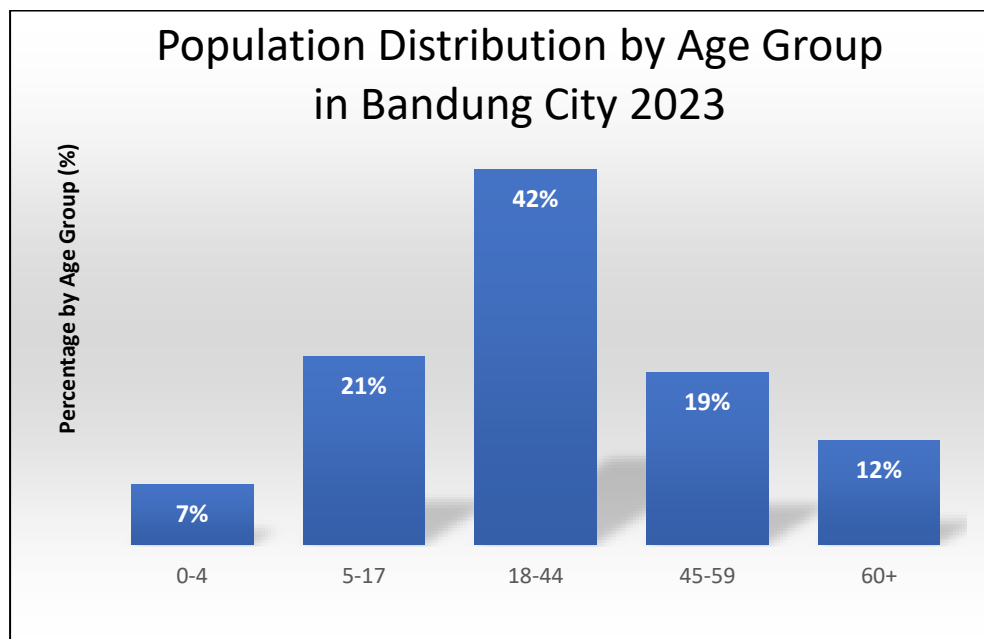


Figure 1. Population Distribution by Age Group in Bandung City 2023

Source: Bandung Statistical Center 2023, Author's Processing (2024)

It is important to note that the age distribution in Bandung City shows that the elderly (60 years and above) make up 12% of the total population, or approximately 296,552 people. Within a 2.5 km radius of the Bandung Geriatric Center (BGC) Main Clinic, there are 12 sub-districts with a total elderly population of approximately 139,735. This number is highly relevant to the clinic's geriatric services, which target the elderly age group as the main market.

Table 1. Geriatric Service Coverage Area Demographics

Sub-district Bandung City (2.5 km radius)	Area (km ²)	Coverage Area (%)	Population Coverage Area (2.5 km radius)
Bojongloa Kaler	3,03	10,86%	13.654
Batununggal	5,03	11,73%	14.355
Coblong	7,35	12,32%	14.396
Cibeunying Kidul	5,25	11,82%	13.572
Sukajadi	4,30	12,10%	12.604
Andir	3,71	12,57%	12.476
Cicendo	6,86	12,82%	12.472
Regol	4,30	14,25%	11.604
Astana Anyar	2,89	14,21%	10.497
Lengkong	5,90	14,34%	10.298
Cibeunying Kaler	4,50	12,43%	8.907
Sumur Bandung	3,40	12,35%	4.900
Total	56,52		139.735

Source: Author's Processing (2024)

Analysis: Based on this data, Bandung Geriatric Center (BGC) Main Clinic has great potential to serve elderly patients, who are the main target of this clinic. The clinic's location in the city center with good accessibility also supports its visibility as a health facility desired by this age group.

4.1.2 Competitor data and scope of competition

There are 20 health facilities within a 2.5 km radius coverage area of Bandung Geriatric Center (BGC) Main Clinic, including hospitals, clinics, puskesmas, and specialist practices. Although there are many health facilities in the area, there are no facilities that specialize in geriatric care. This provides an opportunity for the Bandung Geriatric Center (BGC) to fill a market gap that has not been reached by other facilities. Competition from health facilities around the Bandung Geriatric Centre (BGC) Primary Clinic tends to be low in the area of specialized geriatric health services. Existing competitor clinics focus more on general healthcare or certain specialties, but none provide services tailored to the holistic needs of the elderly.

Table 2. Health Facility Competition Level

No.	Description	Bandung City	Sub-district Sumur	Geriatric Coverage (2.5 km radius)
1.	Population	2.569.107	39.680	139.735
2.	Area (km ²)	167,32	3,40	7,16
3.	Population Density (km ²)	15.354	11.671	19.517
4.	Number of health facilities	491	23	20
5.	Population: Health Facility Ratio	5.232	1.725	6.987

Source: Author's Processing (2024)

The presence of Bandung Geriatric Centre (BGC) Main Clinic as the only clinic specializing in elderly care provides a significant competitive advantage. Although there are other clinics within a 2.5 km radius, the absence of a clinic specializing in geriatrics makes the Bandung Geriatric Centre (BGC) Primary Clinic the first choice for elderly patients who require special attention. There are several clinics that are the main competitors of the Bandung Geriatric Centre (BGC) Main Clinic. However, the analysis shows that these competitors focus more on general health services or other specialties, while the Bandung Geriatric Centre (BGC) Main Clinic emphasizes specialized services for the elderly. The unique services offered by the Bandung Geriatric Center (BGC) Main Clinic, such as holistic

geriatric examination, home care, and integrated elderly care, provide more value compared to other clinics in the vicinity. These advantages are a major attraction for elderly patients and their families who require specialized services.

4.1.3 Clinic service coverage

Determination of the service coverage of the Bandung Geriatric Center (BGC) Main Clinic uses a 2.5 km radius by relying on the Google Earth application and data from BPS. This coverage area includes the elderly population (60+) with sufficient accessibility, as well as considering competing factors and travel time. Klinik BGC is located in the Sub-district Sumur Bandung with a population of approximately 39,680 people and a density of 11,671 people/km². Within a radius of 2.5 km, there are approximately 139,735 elderly people who can be reached.

Table 3. Number and percentage of elderly population per sub-district 2.5 km radius coverage area

No.	Sub-district	Total Elderly Population	Percentage (%)
1	Sumur Bandung	4.900	3,5%
2	Cibeunying Kaler	8.907	6,4%
3	Lengkong	10.298	7,4%
4	Astana Anyar	10.497	7,5%
5	Regol	11.604	8,3%
6	Cicendo	12.472	8,9%
7	Andir	12.476	8,9%
8	Sukajadi	12.604	9,0%
9	Cibeunying Kidul	13.572	9,7%
10	Coblong	14.396	10,3%
11	Batununggal	14.355	10,3%
12	Bojongloa Kaler	13.654	9,8%
	Total	139.735	100%

Source: Author's Processing (2024)

The sub-districts with the largest elderly populations are Batununggal and Coblong, with around 14,000 and 10% of the total elderly population respectively. Although Kecamatan Sumur Bandung has a smaller proportion of the elderly population, the quality of services can improve the competitiveness of this clinic.

4.1.4 Analysis of market potential projections

The projection of the market potential of the Bandung Geriatric Center (BGC) Main Clinic was carried out by considering the morbidity of Bandung City (14.72%) and an estimated market share of 3%. Based on this projection, the BGC Clinic's outpatient visits are expected to reach 18 visits per day, or 6,480 visits per year. This projection is based on market share calculated by considering competitive market conditions in a large city and may change according to external factors such as competitors and access.

Table 4. Market Potential Projection Analysis Based on Market Share

Year	Population Projection (2.5 km radius)	Morbidity (%)	Market Share (%)	Target	Per Day Outpatient	Per Month Outpatient	Per Year Outpatient
0	139.735	14,72%	3,0%	617	18	540	6.480
2024	143.331	14,72%	3,0%	633	18	540	6.480
2025	146.983	14,79%	3,0%	652	18	540	6.480
2026	150.690	14,87%	3,0%	672	18	540	6.480
2027	154.453	14,94%	3,0%	692	18	540	6.480
2028	158.271	15,02%	3,0%	713	18	540	6.480

Year	Population Projection (2.5 km radius)	Morbidity (%)	Market Share (%)	Target	Per Day Outpatient	Per Month Outpatient	Per Year Outpatient
2029	162.145	15,09%	3,0%	734	27	810	9.720
2030	166.074	15,17%	3,0%	756	27	810	9.720
2031	170.057	15,24%	3,0%	778	27	810	9.720
2032	174.096	15,32%	3,0%	800	27	810	9.720
2033	178.189	15,40%	3,0%	823	27	810	9.720
2034	182.336	15,47%	3,0%	846	27	810	9.720
2035	186.537	15,55%	3,0%	870	27	810	9.720
2036	190.792	15,63%	3,0%	895	27	810	9.720
2037	195.101	15,71%	3,0%	919	27	810	9.720
2038	199.463	15,78%	3,0%	945	27	810	9.720

Source: Statistical Data Center, Author's Processing (2024)

4.2 Feasibility analysis of Bandung Geriatric Center (BGC) main clinic development in terms of operations

4.2.1 Location and zoning analysis

The BGC Clinic site is located in Bandung City, which is the economic and service center of West Java, with various infrastructure development projects supporting mobility and access to services. Projects such as the Ciroyom Fly Over and the Bandung inner-city toll road (BIUTR) are expected to improve accessibility to the clinic. Bandung City Development Several major projects, such as the construction of bus-based mass transportation (BRT) and the Whoosh high-speed rail project, have the potential to improve accessibility to the clinic and expand market reach, especially in the Greater Bandung area. Clinic Location Klinik BGC is located in a strategic area with easy access, near social and commercial facilities, and free from natural disasters. This makes the clinic location ideal to support development.



Figure 2. Bandung Geriatric Center (BGC) Main Clinic Land Allocation

Source: Author's Processing (2024)

Bandung Geriatric Center (BGC) Main Clinic has a land area of 1,164 m², a building of ±500 m², and a parking area of ±70 m² that can accommodate 5-8 cars and 10 motorcycles. The ratio of 4-wheel parking is 1:3 m, 2-wheel is 1:1.5 m. The width of the road in front of the clinic is ±15 m with flat and stable land contours.



Figure 3. Bandung Geriatric Center (BGC) Main Clinic Building and Street
Source: Bandung Geriatric Center (BGC) Primary Clinic

4.2.2 Development layout

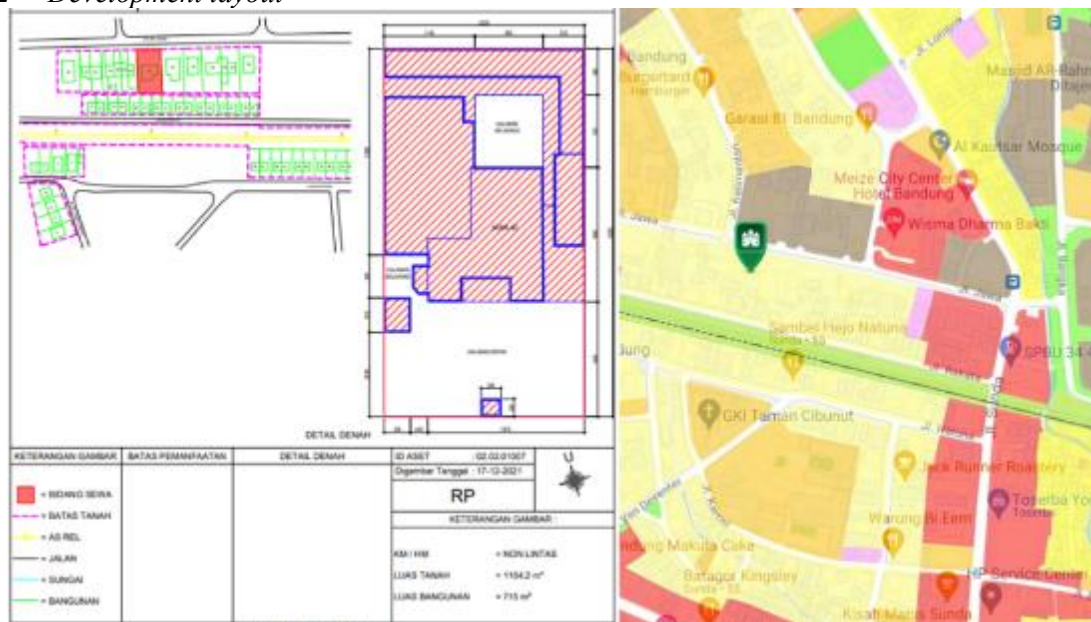


Figure 4. Layout (Development Plan)
Source: Bandung Geriatric Center (BGC) Primary Clinic

The site where the Main Clinic is built with the entire physical building structure including the renovation of the shophouse, power plant and equipment (such as generators), and fittings and fixtures (including floor tiles and wallpaper). Renovation of building area ± 715 m², Bandung Geriatric Center (BGC) Main Clinic is planned for space renovation, addition/provision of function space pharmacy/pharmacy and commercial area, polyclinic is only added for specialist services only.

4.2.3 Equipment and technology used

BGC Clinic plans to gradually procure medical equipment to support service expansion. This includes the development of technologies required to meet patient needs, with a focus on geriatric services.

4.3 Feasibility analysis of Bandung Geriatric Center (BGC) main clinic development from the human resources aspect

The rise is improving as more health facilities are built in Indonesia. However, a re-analysis is required to determine the availability-demand ratio. The availability of human resources in Bandung City, especially medical personnel such as general practitioners and specialists, is sufficient. The need for health human resources (HRH) in Bandung City for medical physicians and nurses has been met;

nevertheless, 1,910 midwives are still needed, with a ratio of 3,340 to 1,430. However, there is a need for midwives. The BGC clinic will require competent medical personnel, both permanent and visiting doctors, as well as non-medical personnel to support clinic operations.

4.4 Feasibility analysis of Bandung Geriatric Center (BGC) main clinic development from the legal aspect

Bandung Geriatric Center (BGC) Main Clinic has fulfilled all the necessary legal requirements to operate, based on various relevant regulations such as Minister of Health Regulation No. 14 of 2021 concerning Business Activity and Product Standards in the Implementation of Risk-Based Business Licensing in the Health Sector (Permenkes No. 14, 2021). The clinic has obtained a location permit, Building License, and Building Approval, in accordance with the Minister of Public Works and Housing Regulations and Government Regulations related to buildings. In addition, BGC also complies with regulations on medical device testing and calibration, intellectual property rights (*HAKI*), and other administrative obligations, such as the Taxpayer Identification Number and deed of establishment. All important documents have been prepared by the provisions set out in government regulations and relevant ministries.

4.5 Feasibility analysis of Bandung Geriatric Center (BGC) main clinic development from financial aspects

4.5.1 Investment plan and source of funds

The development of the Bandung Geriatric Center (BGC) Main Clinic requires an investment fund of Rp 2,076,999,914. These funds are used for land acquisition (1,164 m²), building construction (700 m²), medical and non-medical equipment, and other facilities. All of these funds came entirely from the investor's own capital. The main revenue of Bandung Geriatric Center (BGC) Main Clinic comes from patient services. Revenue projections were calculated using a conservative approach, estimating a stable number of visits and rates over the first five years of operation. Based on these assumptions, revenue projections for the clinic over the next five years can be made.

Clinic costs consist of fixed costs (depreciation and amortization) and operating costs. Operating costs include the cost of human resources, materials, services, maintenance, power subscriptions, general administration, and other costs associated with clinic operations.

Table 5. Clinic Revenue Projections for the Next 5 Years

Year-	1	2	2	4	5
Registration	240.000.000	356.000.000	524.160.000	598.752.000	680.724.000
Medical Services	240.000.000	302.400.000	450.576.000	577.281.600	1.171.255.680
Pharmacy	384.000.000	483.840.000	677.376.000	875.750.600	1.171.255.680
Actions	240.000.000	302.400.000	423.360.000	547.344.000	732.034.800
Others	43.200.000	54.432.000	76.204.800	98.521.920	131.766.264
Total	1.147.200.000	1.503.072.000	2.151.676.800	2.697.649.920	3.887.036.424
Margin Ratio	-	23,68%	30,14%	20,24%	30,60%

Source: Author's Processing (2024)

Table 6. Projected Clinic Operation and Maintenance Costs for the next 5 years

Year-	Cost	Cost Ratio
1	902.144.000	-
2	1.064.381.440	15,24%
3	1.185.839.536	10,24%
4	1.642.155.299	27,79%
5	1.777.953.144	7,64%
Total	6.572.473.419	

Source: Author's Processing (2024)

4.5.2 Cash flow and profit and loss projections

Cash flow projections are calculated by subtracting costs from revenue (EBIT), then deducting taxes to obtain net cash flow. This approach is important because the cash generated by the clinic will be reused for investment, while reported profits do not always reflect available cash. This cash flow analysis will provide a clearer picture of the clinic's financial health and ability to manage investments.

4.5.3 Net Present Value (NPV) and Internal Rate of Return (IRR)

In the investment feasibility analysis of the Bandung Geriatric Center (BGC) Main Clinic, three main methods were used to assess whether the project is feasible: Payback Period (PP), Net Present Value (NPV), and Internal Rate of Return (IRR). Payback Period (PP) measures the time required to return the investment capital. For the BGC development, the investment of IDR 2,076,999,914 is expected to be returned within 4 years 0.37 months, which is faster than the planned project life of 5 years. This indicates that the project is feasible in terms of investment payback period. Net Present Value (NPV) calculates the net present value of all discounted future cash flows. In this calculation, a positive NPV of IDR 428,826,312 is obtained with an interest rate of 10% per year. A positive NPV indicates that the investment is profitable and feasible.

Internal Rate of Return (IRR) measures the rate of return on an investment that generates a present value of cash flow equal to the initial investment. The IRR calculation shows a value of approximately 15.73%, which is higher than the 10% cost of capital rate. This indicates that the clinic development project is feasible in terms of return on investment.

Table 7. Financial Feasibility Results

Needs	Analysis result	Description
PP	1) Investment period of 5 years (project life) 2) Pay-back Period (PP), i.e. the initial investment will return in a period of 4 years 0.37 months. 3) PP is faster than the project life	PP < project life Worth
NPV	1) Interest rate or cost of capital of 5% 2) Development investment period (project life) of 5 years. 3) Initial investment of IDR 2,076,999,914 4) Present Value (PV) of cash flow of IDR 2,505,826,226 5) Net Present Value (NPV) IDR 428,826,312	Positive NPV Worth
IRR	1) Interest rate or cost of capital of 5% 2) IRR ranges between 10% and 16% 3) If the IRR is 10% then NPV = Rp 428,826,312 (positive) 4) If the IRR is 16%, then NPV = (19,876,127) (negative) 5) The IRR is 15.73%	IRR > 10% Worth

Source: Author's Processing (2024)

5. Conclusion

5.1 Conclusion

The conclusion of the feasibility study of the development of the Bandung Geriatric Center (BGC) Main Clinic shows that overall, the project is feasible to develop. From the market and marketing aspect, the projected growth of the geriatric population until 2039, good market potential, and increasing patient visits are the basis for feasibility. From the operations aspect, the strategic location, good accessibility, and facility and equipment development plans support operational feasibility. In terms of human resources, although there is a shortage of midwives, the availability of specialists in Bandung City is sufficient to support the development of the clinic. In terms of legality, BGC Main Clinic has fulfilled all legal and licensing requirements. The financial analysis showed positive results with a Pay-back

Period (PP) of 4 years 0.37 months, Net Present Value (NPV) of Rp. 428,826,312, and an Internal Rate of Return (IRR) of 15.73%, confirming the financial viability of the project.

Development suggestions include expanding the service network, facilities, and equipment to improve competitiveness, as well as aggressive marketing to expand market share. Legal document management needs to be well-prepared to accelerate development. The clinic is also advised to increase promotion through social media, establish cooperation with sponsors, and organize events that involve the community to expand information about its excellent services. This study is limited to the data available and the assumptions used in the projections. External factors such as changes in government policies or rapidly changing market conditions may affect the results. Therefore, more in-depth follow-up studies are needed to account for more varied factors.

5.2 Limitation

The limitations identified in this study have a direct impact on the findings, but can be managed to maintain the validity of the feasibility study results. One of the main limitations is the use of secondary data and key informant interviews as the main source, without a direct survey of the elderly population in the coverage area. This can reduce the level of precision in the projection of market potential, especially regarding the specific needs of the target group. In addition, competitor analysis that only covers health facilities within a 2.5km radius could potentially overlook competitors outside the area, which might affect the overall evaluation of the level of competition.

From a financial perspective, assumptions used in projections, such as discount rates and estimated operating costs, may change over time due to economic dynamics or government policies. These changes can affect the accuracy of financial analysis results, including Payback Period (PP), Net Present Value (NPV), and Internal Rate of Return (IRR). However, this study has used systematic quantitative methods and up-to-date data to minimise the impact of such limitations. By considering all aspects of feasibility-market, operations, human resources, legality, and the study results remain valid and reliable as a basis for decision-making on the development of the Bandung Geriatric Centre (BGC) Main Clinic.

5.3 Suggestions

1. Collaboration with Government and Healthcare Institutions

To increase service coverage and secure policy support, geriatric clinic developers should form collaborations with the Department of Health, government hospitals, and medical professional groups. This is critical to increasing legitimacy and improving access for senior people from all walks of life.

2. Improving Human Resource Competence

One of the obstacles in delivering geriatric services is the scarcity of health workers with specialist skills in aged care. As a result, doctors, nurses, and other support professionals must have enough training and certification.

3. Integrated Service Approach.

Geriatric clinics should not only provide treatment but also promote and preventive services such as routine health screenings, physical therapy, dietary advice, and social events. A holistic service strategy will improve patient loyalty.

4. Market Segmentation and Specialised Marketing Strategies

Because the older market is extremely diversified in economic and social aspects, targeted marketing tactics based on age segmentation, health issues, and purchasing power are required. For example, use proper pricing strategies to differentiate between premium and regular services.

5. Use of Technology and Digitalisation

The creation of mobile applications or telemedicine systems can aid in the regular monitoring of patients' conditions and the facilitation of communication between patients and clinicians. This is especially important for the elderly who have restricted mobility.

6. Strategic Location and Accessibility

The clinic's location should take into account older persons' ease of access, such as the availability of public transportation, comfortable waiting rooms, and disability-friendly amenities.

7. Further Feasibility Study

Although the study findings suggest that the establishment of a geriatric clinic in Bandung has considerable potential, a follow-up feasibility study with a larger area coverage and updated data is strongly advised to support investment decisions.

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