

ANALYSIS OF FACTORS AFFECTING THE GROSS INCOME MULTIPLIER FOR SHOP-HOUSES AND OFFICE- HOUSES IN DENPASAR CITY AND BADUNG REGENCY

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ABSTRACT

The development of commercial property in Denpasar City and Badung Regency has highlighted the need for an investment valuation method capable of reflecting the relationship between market value and a property's ability to generate income. One such method is the Gross Income Multiplier (GIM). This study aims to analyse the GIM value and the influence of building area, building age, building condition, road width, accessibility, and distance to tourist attractions on the GIM value of shop-houses/office-houses in Denpasar City and Badung Regency. This study employs a quantitative approach with an associative design. The population comprised 200 shop-houses/office-houses, whilst a sample of 67 units was determined using the Slovin formula with purposive sampling. Data were collected through observation, documentation and secondary data, and were subsequently analysed using descriptive statistics and multiple linear regression. The results indicate that the average GIM value is 26.21, with a minimum of 16 and a maximum of 37, indicating a medium- to long-term investment payback period. Regression analysis shows that building area, building age, building condition, road width, accessibility and distance to tourist attractions have a positive and significant effect on the GIM ($p < 0.05$). The building condition variable is the most dominant factor influencing the GIM. This study concludes that the physical characteristics of the building and the location characteristics play an important role in determining the GIM value of commercial properties. The research findings are expected to serve as a reference for investors, property valuers, developers and the government in asset valuation and property investment decision-making.

Keywords: Gross Income Multiplier (GIM), commercial property, shop houses, office houses, property investment.

Introduction

The property sector is one of the main pillars of the national and regional economies as it plays a role in creating jobs, increasing asset values, and driving investment activity. According to the Ministry of Public Works and Public Housing (2024), the property sector contributes approximately 14.4 per cent to national GDP through multiplier effects on the construction, financial services, and trade industries. Property serves not only as a place of residence but also as a long-term investment instrument that provides financial returns in the form of *capital gains* and *rental income*. Kyle (2000) states that property investment offers advantages such as the potential for capital gains, leverage, stable cash flow, and protection against inflation (inflation hedge).

Property investment valuation is generally carried out using various approaches, one of which is the *Gross Income Multiplier* (GIM). The GIM concept serves as a key indicator for investors, valuers, and financial institutions in assessing how quickly the investment capital can be recouped through the annual gross income generated by the property. Boykin and Gray (1994) explain that the GIM is a simple yet effective method for estimating a property's market value based on the ratio of its market price to its annual gross income. A low GIM value indicates a faster rate of return on investment, whilst a high GIM value signifies a longer period for capital recovery. Factors such as location, accessibility, building area, physical condition, and proximity to centres of economic activity are the main determinants in establishing the GIM value (Gabrielli & French, 2021).

The commercial property sector in Indonesia has shown a positive trend in recent years. Bank Indonesia's Q4 2024 report indicates that the Commercial Property Demand Index for the rental category grew by 2.84 per cent (year-on-year) and the sales category increased by 0.35 per cent (year-on-year). On the supply side, the Commercial Property Supply Index for the rental category rose by 2.89 per cent (year-on-year) and the sales category grew by 0.11 per cent (year-on-year). This growth indicates increased economic activity in the commercial property sector—such as retail, offices, and shop-houses/office-houses—which reflects rising demand for productive business premises.

Table 1.1 Development of the Commercial Property Demand Index

	NOTES	2021				2022			
		I	II	III	IV	I	II	III	IV
Demand Index		101.8 4	101.8 3	101.9 2	102.8 4	103.0 6	103. 44	103.5 1	103.71

	Rent	88.47	88.9	87.8	96.7	95.14	99.	102.0	108.62
			9	3	9		92	5	
	Sell	101.9	101.9	102.	102.8	103.11	103.	103.5	103.67
		3	2	01	8		46	2	
	Office buildings	107.2	106.	106.	120.1	120.0	120.	120.5	121.90
		4	73	64	5	7	33	3	
	Office rentals	100.2	99.7	99.2	99.7	99.73	99.	100.0	100.91
		7	6	4	9		82	3	
	Office buildings for sale	107.4	106.	106.	120.6	120.6	120.	121.0	122.42
		5	93	85	7	0	85	6	
	Retail	100.0	100.	100.	100.0	100.0	100.	100.0	100.04
		3	03	03	2	2	03	4	
	Retail rent	102.9	102.	102.	102.7	102.9	103.	103.7	103.91
		4	68	63	0	5	15	6	
	Retail price	99.97	99.9	99.9	99.9	99.9	99.	99.9	99.96
			7	7	6	6	96	6	
	Flat	59.06	63.31	60.5	71.73	70.73	74.	77.74	86.02
				8			20		
	Rental flats	59.06	63.31	60.5	71.73	70.73	74.	77.74	86.02
				8			20		
	Hotel	42.11	45.2	40.1	81.8	74.6	94.	101.1	121.56
			3	6	6	6	92	8	
	Industrial Land	103.21	103.2	103.	103.5	104.0	104.	104.8	104.87
			2	43	5	8	75	2	
	Convention Hall	24.58	25.0	21.32	31.58	30.4	53.2	62.3	85.74
			3			9	7	8	
	Warehouse Complex	100.5	100.	100.	100.6	100.6	100.	100.8	100.92
		6	57	59	2	4	75	1	
20232024									
NOTES I II III IV I II III IV									
	Demand Index	103.71	103.8	103.9	104.0	104.0	104.	104.2	104.46
			5	6	7	9	21	7	
	Rent	104.0	105.7	108.4	110.6	107.5	110.	112.8	113.83
		3	8	0	9	8	01	4	
	Sell	103.71	103.8	103.9	104.0	104.0	104.	104.2	104.39

			4	3	2	7	17	1	
	Office buildings	122.04	122.43	122.19	122.44	122.42	122.41	122.40	122.43
	Office rentals	101.91	101.17	101.31	101.52	101.91	102.22	102.71	103.26
	Office buildings for sale	122.55	122.97	122.72	122.97	122.96	122.93	122.91	122.92
	Retail	100.05	100.06	100.07	100.09	100.15	100.17	100.18	100.21
	Retail rent	104.33	104.58	105.18	105.83	108.23	108.99	109.49	110.57
	Retail price	99.96	99.96	99.96	99.96	99.96	99.96	99.96	99.96
	Flat	89.90	90.67	94.69	98.24	95.31	93.83	97.76	93.85
	Rental flats	89.90	90.67	94.69	98.24	95.31	93.83	97.76	93.85
	Hotel	105.33	111.30	118.41	124.05	110.58	117.15	124.75	125.82
	Industrial Land	104.91	104.98	105.10	105.20	105.25	105.37	105.41	105.65
	Convention Hall	94.33	98.44	94.50	107.03	97.50	98.02	126.42	138.60
	Warehouse Complex	100.97	101.20	101.33	101.44	101.50	101.65	101.73	101.94

Table 1.2 Trends in the Commercial Property Supply Index

NOTES	2021				2022			
	I	II	III	IV	I	II	III	IV
Supply Index	103.96	103.96	104.19	105.08	105.25	105.91	105.95	106.13
Rent	108.43	108.57	108.87	108.94	109.23	109.32	109.93	109.78
Sell	103.93	103.93	104.16	105.06	105.22	105.88	105.92	106.10

	Office buildings	105.45	105.45	105.45	120.51	120.48	120.53	120.54	121.80
	Office rentals	110.45	110.45	112.03	111.67	111.61	112.03	112.52	113.28
	Office buildings for sale	105.30	105.30	105.25	120.74	120.71	120.74	120.75	122.02
	Retail	100.02	100.02	100.02	100.03	100.04	100.04	100.05	100.05
	Retail rent	107.21	107.31	107.28	107.71	108.29	108.35	108.83	108.94
	Retail price	99.86	99.86	99.86	99.86	99.86	99.86	99.86	99.86
	Flat	106.38	106.45	106.33	106.85	106.46	106.11	106.82	106.93
	Rental flats	106.38	106.45	106.33	106.85	106.46	106.11	106.82	106.93
	Hotel	109.55	110.00	109.74	109.28	109.24	109.18	110.12	108.98
	Industrial Land	108.52	108.52	109.04	109.02	109.40	110.84	110.84	111.06
	Convention Hall	115.02	115.37	133.71	135.04	133.63	133.24	132.91	133.95
	Warehouse Complex	100.12	100.12	100.13	100.19	100.20	100.22	100.35	100.35

			4	0	6	4	4	7	8
	Office buildings for sale	122.01	122.01	121.47	121.47	121.47	121.47	121.47	121.47
	Retail	100.07	100.09	100.09	100.10	100.17	100.20	100.21	100.24
	Retail rent	109.56	110.38	110.33	110.78	113.57	114.54	115.00	116.24
	Retail price	99.86	99.86	99.86	99.86	99.86	99.86	99.86	99.86
	Flat	107.37	106.78	106.45	109.96	111.19	112.65	113.09	113.07
	Rental flats	107.37	106.78	106.45	109.96	111.19	112.65	113.09	113.07
	Hotel	109.21	110.41	110.46	110.35	110.87	111.14	111.45	111.51
	Industrial Land	111.05	111.08	111.08	111.08	111.08	111.07	111.07	111.07
	Convention Hall	133.88	133.98	133.33	133.41	149.82	147.25	153.92	157.45
	Warehouse Complex	100.35	100.47	100.47	100.47	100.47	100.74	100.85	100.85

Source: Bank Indonesia, Q4 2024

Tables 1.1 and 1.2 show that the Commercial Property Demand Index and Supply Index for the period 2021–2024 have shown an upward trend. The demand index rose from 101.84 in the first quarter of 2021 to 104.46 in the fifth quarter of 2024, with the largest increase in the rental category, from 88.47 to 113.83, indicating growing interest in commercial properties such as shop houses and office-residences. The supply index also grew from 103.96 to 106.32, with the highest increase in the rental category, rising from 108.43 to 114.43. This growth reflects the recovery of property market activity following the pandemic and demonstrates that the commercial property sector remains resilient to both national and global economic dynamics (Source: Bank Indonesia, Commercial Property Statistics, Q4 2024).

The province of Bali holds a strategic position in the development of the commercial property sector, supported by highly dynamic economic and tourism activity. Data from the Bali Provincial Central Statistics Agency (2024) shows that the wholesale and retail trade sector accounts for 8.97 per cent of the Regional Gross Domestic Product (RGDP), whilst the accommodation and food and beverage services sector contributes 19.93 per cent. The city of Denpasar serves as the centre

for government, trade and services, whilst Badung Regency is the centre for international tourism, featuring key areas such as Kuta, Canggu, Jimbaran and Nusa Dua. The combination of these two areas creates a high demand for modern commercial spaces in the form of shop-houses/office-houses that serve as multifunctional spaces for business, offices and long-term investment vehicles.

Denpasar City and Badung Regency are two strategic regions in the Province of Bali with highly dynamic economic and tourism activities. Denpasar serves as the centre for government, services and trade. Badung Regency is the centre of international tourism, featuring prime areas such as Kuta, Canggu, Nusa Dua and Jimbaran, which are always bustling with both domestic and international tourists. According to data from the Bali Provincial Central Statistics Agency (2024), the wholesale and retail trade sector, along with the accommodation and food and beverage sector, make significant contributions to the Regional Gross Domestic Product (RGDP), at 8.97 per cent and 19.93 per cent respectively. The high contribution of these sectors highlights the vital role of trade and tourism in underpinning the economy. Growth in these sectors ultimately drives an increased demand for suitable commercial premises, whether in the form of modern shopping centres, office blocks, or shop-houses/office-houses. Shop-houses/office-houses are a popular choice due to their multifunctional nature; they can serve as business premises, offices, and, at the same time, represent an investment that generates passive income through rental. There are more than 30 shop-house/office-house complexes spread across the City of Denpasar and Badung Regency.

The research gap regarding the Gross Income Multiplier (GIM) for shop-houses/office-houses remains quite significant, particularly in the Bali region. Previous studies have generally focused on other property types such as hotels, flats, or warehouses. Dananto (2005) investigated the factors influencing the GIM for hotels in Jakarta and found that land area, number of rooms, and building age had a significant impact on the GIM value. Khasanah and Khoirudin (2020) studied the GIM for shop-houses in the city of Yogyakarta and found an average GIM value of 36 times the annual gross income. Razali *et al.* (2022) investigated the GIM for warehouses in Medan and Deli Serdang and found that the location and size of the warehouse influenced the GIM, although the measurement of accessibility remained general in nature. Wilhelmsson and Roos (2023) also demonstrated that a building's age is negatively correlated with property market values in Sweden. Based on these findings, no study has yet comprehensively integrated the variables of building condition, accessibility and distance to tourist attractions into a GIM analysis in regions with specific characteristics such as Bali.

Research entitled 'Analysis of factors affecting the gross income multiplier of warehouse property in Medan City and Deli Serdang Regency, North Sumatra Province' (Razali *et al.*, 2022) indicates that the average GIM for warehouse

properties in that region is 26.32 times the annual gross income. The regression findings indicate that the variables ‘distance to Belawan Port’ and ‘ ‘age of the building’ have a negative and significant effect on the GIM, whilst the variables building area, frontage width, and road width were not found to be significant. This study emphasises that accessibility and the physical condition of the building are key factors influencing the effectiveness of GIM—a finding highly relevant to the focus of this research, namely shop-houses and office-houses in urban areas with distinct access and condition characteristics, such as the city of Denpasar and Badung Regency.

The city of Denpasar and Badung Regency have unique economic characteristics, necessitating separate empirical studies. Denpasar serves as a centre of government and trade, whilst Badung is stronger in the international tourism sector, with very high potential for the letting of shop-houses and office-houses. These conditions create distinct property market characteristics between the two regions, in terms of demand, rental rates and property sale values. However, to date, there has been no empirical research specifically analysing the *Gross Income Multiplier* (GIM) for shop-houses and office-houses in urban Bali, particularly one that compares these two economic centres. Most previous literature has focused on apartments, hotels or warehouses, and has not integrated contextual variables such as the physical condition of the building, accessibility and distance to tourist areas. It is this gap in the literature and the limitations of empirical data that constitute the main research gap, as there is as yet no GIM analysis model designed for regions with mixed economic characteristics of trade and tourism, such as Denpasar and Badung.

The urgency of this research lies in the importance of providing data and analysis that can serve as a basis for investment and public policy decision-making. Investors require a clear understanding of the factors that most influence GIM so that decisions regarding the purchase, rental, or development of property can be made with more accurate risk assessments. Local authorities also require this information to formulate spatial planning policies, regulate the development of shop-houses and office-houses, and establish sustainable zoning that strikes a balance between economic functions and urban planning. This research is expected to fill a gap in the relevant literature and support the formulation of data-driven regional development policies that are aligned with the dynamics of the commercial property sector in Bali.

This study is entitled “Analysis of Factors Influencing the Gross Income Multiplier of Shop-Houses and Office-Houses in Denpasar City and Badung Regency.” The objective of the study is to analyse the Gross Income Multiplier (GIM) for each shop-house and office-house complex and to identify the variables that have a significant influence on the GIM value. The research findings are expected to make an academic contribution in the form of the development of a GIM ‘ ‘ model that incorporates contextual variables specific to tourism areas, as well as providing

practical benefits for investors, property valuers and local government in supporting the development of the commercial property sector in the Province of Bali.

Based on the background and *research gaps*, there are still several issues that need to be examined regarding the *Gross Income Multiplier* (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency. To date, there is no clear data on the GIM for these types of properties in either of these two areas. Furthermore, there are a number of factors which, both theoretically and empirically, are thought to influence the GIM value; however, their specific impact has not yet been tested in the context of shop-houses and office-houses in Bali. These factors include building area, building age, building condition, road width, accessibility, and distance to tourist attractions. Consequently, this study was conducted to determine the magnitude of the GIM whilst analysing the factors that may potentially influence it. With reference to the research problem, the research questions raised in this study are as follows: 1) What is the *Gross Income Multiplier* (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency? 2) Does building area influence the *Gross Income Multiplier* (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency? 3) Does the age of the building influence the *Gross Income Multiplier* (GIM) index for shop-houses and office-houses in Denpasar City and Badung Regency? 4) Does the condition of the building influence the *Gross Income Multiplier* (GIM) index for shop-houses and office-houses in Denpasar City and Badung Regency? 5) Does road width have an effect on the *Gross Income Multiplier* (GIM) index for shop-houses and office-houses in Denpasar City and Badung Regency? 6) Does accessibility have an effect on the *Gross Income Multiplier* (GIM) index for shop-houses and office-houses in Denpasar City and Badung Regency? 7) Does the distance to tourist attractions have an effect on the *Gross Income Multiplier* (GIM) index for shop-houses and office-houses in Denpasar City and Badung Regency?

RESEARCH METHODOLOGY

Type and Nature of the Research

This study employs a quantitative approach, which involves the measurement of quantitative data and objective statistics through scientific calculations derived from a sample of individuals who were asked to answer a number of survey questions in order to determine the frequency and percentage of respondents' answers (Creswell, 2017:24). The type of research used is associative research, which aims to test or measure the relationship between independent variables and dependent variables (Sugiyono, 2019:104). The research design, which employs a quantitative approach and an associative research type, implies that this study will conduct statistical data analysis in the form of descriptive and inferential statistics, interpret

statistical data, and test a theory by formulating a specific hypothesis, then collecting data to support or refute that hypothesis.

RESULTS AND DISCUSSION

The Gross Income Multiplier (GIM) for Shop-Houses and Office-Houses in Denpasar City and Badung Regency

Based on the research findings, the average *Gross Income Multiplier* (GIM) value was found to be 26.21 for shop-houses and office-houses in Denpasar City and Badung Regency. Furthermore, the distribution results indicate that the majority of the samples fell within the GIM range of 25.01–30.00, comprising 23 samples (34.33 per cent). The minimum GIM value in this study was 16 and the maximum was 37. These results indicate that there is variation in the rate of return on investment across individual properties, influenced by both physical and locational characteristics.

The average GIM value of 26.21 indicates that, generally, it takes approximately 26.21 years to recoup the property's investment value through the annual gross income generated, assuming relatively stable income conditions. A lower GIM value indicates a relatively shorter payback period, whilst a higher GIM value indicates a longer payback period. This suggests that a property's ability to generate income is a key indicator in determining the economic value and viability of commercial property investment.

The results of this study are consistent with the research by Dananto (2005), which showed that the *Gross Income Multiplier* can be used as an indicator in assessing the relationship between property value and a property's ability to generate income. Furthermore, research by Khasanah and Khoirudin (2020) also indicates that the *Gross Income Multiplier* method can serve as an alternative in property asset valuation, as it provides an indication of the rate of return on investment based on the income generated by the property. Theoretically, the more optimal a property's ability to generate income, the better its economic value as an investment asset.

Thus, it can be concluded that the *Gross Income Multiplier* (GIM) values for shop-houses/office-houses in Denpasar City and Badung Regency reflect the characteristics of commercial property investment, which are influenced by the property's ability to generate income. The GIM values obtained in this study can be used as a basis for property valuation and investment decision-making, particularly for shop-houses/office-houses in the study area.

Building Area Has a Positive and Significant Effect on the GIM Index

Based on the results of the t-test, it was found that the building area variable has a positive and significant effect on the *Gross Income Multiplier* (GIM) of shop-houses and office-houses in Denpasar City and Badung Regency. This is indicated by a significance value of 0.049, which is less than 0.05, with a positive regression

coefficient of 0.011. These results indicate that the larger the building area of a property, the higher the Gross Income Multiplier (GIM) value generated.

These research findings can be explained by property valuation theory, which states that building area is one of the physical characteristics that influences a property's ability to generate income. According to Putra (2024) and Gabrielli & French (2021), buildings with a larger floor area tend to have more spacious facilities to support various business activities, thereby increasing the potential income earned by the property owner. This increase in income will ultimately influence the economic value of the property and the magnitude of the Gross Income Multiplier (GIM).

The findings of this study are also supported by descriptive statistical results, which show that the average building area of shop-houses and office-houses in Denpasar City and Badung Regency is 275.84 m², with a standard deviation of 173.590. Furthermore, the majority of the sample fell within the 201–400 m² building area category, comprising 31 units or 46.27 per cent of the total research sample. This indicates that the majority of the research subjects possess sufficient spatial capacity to support commercial and service activities, thereby having the potential to generate higher income.

These findings are consistent with the study by Razali *et al.* (2022), which found that building area has a positive effect on property value. Putra's (2024) study also showed that the larger the building area, the higher the economic value of a property, as it provides greater flexibility in the use of space and increases the potential income that can be derived from the property.

Consequently, it can be concluded that building area is one of the factors influencing the Gross Income Multiplier (GIM) of shop-houses and office-houses in Denpasar City and Badung Regency. The larger the building area, the greater the property's potential to generate income, thereby increasing the GIM value as an indicator of property investment.

Building Age Has a Positive and Significant Effect on the GIM Index

Based on the results of the t-test, it is evident that the building age variable has a positive and significant effect on the Gross Income Multiplier (GIM) of shop-houses and office-houses in Denpasar City and Badung Regency. This is indicated by a significance value of 0.000, which is less than 0.05, with a positive regression coefficient of 0.277. These results show that the older the building, the higher the Gross Income Multiplier (GIM) value generated.

The findings of this study suggest that a building's age is not always a factor that reduces a property's economic value. Theoretically, a building's age is related to its physical condition, the rate of depreciation, and maintenance requirements. However, in the case of commercial property—particularly shop-houses or office-houses situated in strategic locations—a building's age often reflects the fact that

the property has been in operation for a long time and has established commercial value. Buildings that have stood for a long time in commercial districts are generally well-known to the public and have a stable network of economic activity, enabling them to continue generating high income.

These findings are supported by descriptive statistical results showing that the average building age is 17.27 years with a standard deviation of 7.397. Furthermore, the majority of the sample falls within the 21–30-year age group, comprising 33 units or 49.25 per cent of the total research sample. This indicates that the majority of the shop-houses/office-houses studied are long-established buildings that are still actively used for business and commercial activities.

These findings differ from those of Razali *et al.* (2022) and Rosser *et al.* (2019), who stated that a building's age has a negative impact on property value, as the older the building, the higher the rate of depreciation. However, the results of this study suggest that the characteristics of the commercial property market in Denpasar City and Badung Regency are different. A strategic location and high levels of economic activity are able to maintain the economic value of shop-houses/office-houses even as the age of the building increases.

It can therefore be concluded that the age of a building has a positive and significant effect on the Gross Income Multiplier (GIM) of shop-houses and office-houses in Denpasar City and Badung Regency. This finding indicates that a higher building age does not necessarily reduce a property's ability to generate income if supported by a strategic location and high levels of economic activity.

Building Condition Has a Positive and Significant Effect on the GIM Index

Based on the results of the t-test, it is evident that the building condition variable has a positive and significant effect on the Gross Income Multiplier (GIM) of shop-houses and office-houses in Denpasar City and Badung Regency. This is demonstrated by a significance value of 0.000, which is less than 0.05, with a positive regression coefficient () of 0.270. These results indicate that the better the building condition, the higher the Gross Income Multiplier (GIM) value generated.

Theoretically, building condition reflects the physical quality of the building, encompassing the structure, walls, roof, flooring and the overall level of maintenance. A good building condition enhances comfort, safety and operational efficiency for property users. In commercial properties, a good building condition can also increase tenant interest and support the continuity of business activities, thereby increasing the income earned by property owners.

Descriptive statistical results show that building condition has a mean value of 2.43 with a standard deviation of 0.499. Furthermore, the majority of the sample falls into the 'moderate' category, comprising 38 units or 56.72 per cent, whilst the 'good' category comprises 29 units or 43.28 per cent. No samples fell into the 'poor'

category. This indicates that the majority of shop-houses/office-houses in the study area are in a satisfactory condition and are still capable of optimally supporting business activities.

The findings of this study are consistent with the research by Harfitalia *et al.* (2022), which states that the condition of a building has a positive impact on property value. Buildings in good condition tend to have higher levels of demand as they provide comfort and reduce repair and maintenance costs for tenants. Consequently, such properties are able to generate higher income compared to buildings in poorer condition.

It can therefore be concluded that the condition of a building is a key factor influencing the Gross Income Multiplier (GIM). The better the condition of the building, the greater the property's ability to generate income, thereby increasing the GIM value as an indicator of property investment.

Road Width Has a Positive and Significant Effect on the GIM Index

Based on the results of the t-test, it was found that the variable 'road width' has a positive and significant effect on the Gross Income Multiplier (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency. This is indicated by a significance value of 0.001, which is less than 0.05, with a positive regression coefficient of 0.216. These results show that the wider the roads surrounding a property, the higher the Gross Income Multiplier (GIM) value generated.

Theoretically, road width is an indicator of infrastructure quality that influences a property's accessibility and visibility. Wider roads allow for smoother vehicle mobility, enhance the comfort of road users, and facilitate the distribution of goods and services. For commercial properties, these conditions can increase the attractiveness of a business location, thereby leading to higher revenue.

Descriptive statistical results show that road width has a mean value of 11.40 metres with a standard deviation of 3.750. Furthermore, the majority of the sample falls into the road width category of ≤ 8 metres, comprising 24 units or 35.82 per cent, whilst the category of >16 metres comprises only 5 units or 7.46 per cent. This indicates that the shop-houses and office-houses under study exhibit a considerable variety in road access conditions.

These findings are consistent with the research by Razali *et al.* (2022) and Najang *et al.* (2024), which found that road width has a positive effect on property value. Wider roads provide easier access for consumers and business operators, thereby increasing the potential for economic activity around the property.

It can therefore be concluded that road width has a positive and significant effect on the Gross Income Multiplier (GIM). The wider the roads in a location, the higher the potential income that can be generated, thereby increasing the GIM value of commercial properties.

Accessibility Has a Positive and Significant Effect on the GIM Index

Based on the results of the t-test, it is evident that the accessibility variable has a positive and significant effect on the Gross Income Multiplier (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency. This is indicated by a significance value of 0.037, which is less than 0.05, with a positive regression coefficient of 0.122. These results show that the better the accessibility of a location, the higher the Gross Income Multiplier (GIM) value generated.

Theoretically, accessibility describes the ease with which a location can be reached via the available transport network. Properties with high accessibility are more easily reached by consumers, suppliers and other service users, thereby increasing the intensity of economic activity at that location.

Descriptive statistical results show that accessibility has a mean value of 1.31 with a standard deviation of 0.467. The majority of the sample falls into the 'main road' category, comprising 46 units or 68.66 per cent, whilst the remainder falls into the 'estate access road' category, comprising 21 units or 31.34 per cent. This indicates that the majority of shop-houses/office-houses in this study have a good level of accessibility.

These findings are consistent with the research by Harfitalia et al. (2022), which states that accessibility has a positive effect on property value. The easier a location is to reach, the greater the likelihood of economic activity, thereby increasing the potential income and investment value of the property.

It can therefore be concluded that accessibility has a positive and significant effect on the Gross Income Multiplier (GIM). The better the accessibility of a location, the greater the opportunity for the property to generate income, thereby increasing the GIM value

Distance to Tourist Attractions Has a Positive and Significant Effect on the GIM Index

Based on the results of the t-test, it is evident that the variable 'distance to tourist attractions' has a positive and significant effect on the Gross Income Multiplier (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency. This is indicated by a significance value of 0.040, which is less than 0.05, with a positive regression coefficient of 0.157. These results show that distance to tourist attractions influences changes in the Gross Income Multiplier (GIM) value.

Theoretically, the presence of tourist attractions can generate high levels of economic activity in the surrounding areas. Tourist areas generally serve as hubs for tourist movement, trade and services, which can increase demand for commercial property. Therefore, properties located in areas linked to tourist destinations tend to

have a higher economic value compared to those situated far from the centre of tourist activity.

Descriptive statistical results show that the average distance to tourist attractions is 1,846.57 metres, with a standard deviation of 1,088.277. The majority of the sample falls within the 1,001–2,000 metre range, comprising 33 units or 49.25 per cent of the total research sample. These results indicate that the majority of the shop-houses/office-houses studied are located relatively close to the developing tourist areas in Denpasar City and Badung Regency.

These findings are consistent with the research by Dharsana (2021) and Cunha and Lobão (2022), which state that locations close to tourist attractions have higher economic value as they benefit from the high level of economic activity generated in those areas. Proximity to tourist attractions can increase business opportunities, visitor numbers, and the potential income received by property owners.

It can therefore be concluded that the distance to tourist attractions has a positive and significant effect on the Gross Income Multiplier (GIM) of shop-houses and office-houses in Denpasar City and Badung Regency. The more strategically located a property is in relation to tourist areas, the higher the potential income that can be generated, thereby increasing the GIM value as an indicator of commercial property investment.

Conclusion

Based on the research findings, it can be concluded that the *Gross Income Multiplier* (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency is influenced by the physical characteristics of the buildings and the location characteristics of the properties. When analysed individually, building area, building age, building condition, road width, accessibility and distance to tourist attractions were found to have a positive influence on the GIM value. Simultaneously, all these variables also influence the GIM. The research findings indicate that the condition of the building is the most dominant factor influencing the GIM value. These findings suggest that the physical quality of the building and its location characteristics play a significant role in determining the ability of commercial property to generate income and influence its investment value.

Recommendations

Based on the results of the research conducted on the factors influencing the *Gross Income Multiplier* (GIM) for shop-houses and office-houses in Denpasar City and Badung Regency, the following recommendations are offered:

1. For the local government, it is necessary to improve the quality of supporting infrastructure in commercial and service areas, particularly by widening roads in locations with high commercial activity, improving access to economic centres,

and developing connectivity to tourist areas to enhance the attractiveness of commercial property investment.

2. When selecting a shop-house or office-house property, investors should prioritise buildings in good physical condition, situated in locations with good accessibility, and supported by an adequate road network, as these factors have been shown to influence the GIM value and the property's income potential.
3. For owners of shop-houses or office-houses, it is necessary to carry out regular maintenance and repairs to the building to maintain its physical condition, ensuring it remains attractive to tenants and capable of generating optimal income.
4. For property developers, it is necessary to design shop-houses or office-houses with a floor area that meets market demand, and to select locations with good road access and proximity to centres of economic activity in order to achieve a higher investment value.
5. For future researchers, it is recommended to include other variables that may influence the GIM, such as land area, land prices, occupancy rates, property market conditions, and proximity to business centres, so that the research model can provide a more comprehensive explanation.

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