

Analysis of Mall - Hotel Development Investment in Yogyakarta Caused by Project Delay

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ABSTRACT: Mixed use building is a building planning approach to unite various activities and function in a part of a city. In the construction of a project, there needs to be good planning, implementation and supervisory to avoid project delay that will cause losses to investors. If project delay happens, investor should be able to make the right decision to generate maximum profits. In this study, it aims to learn the effect that occurs on the value of the project investment due to delays in the construction of the Mall – Hotel project. In addition, this research is expected to provide financial solutions to investors in order to still generate profits from Mall – Hotel construction. The financial analysis was done by comparing the project plan schedule cash flow and project realization schedule cash flow, and comparing two alternative capital ratios. Project delays occurred due to lack of equity capital from investors. Furthermore, the construction of the project continued by using a debt with a debt ratio of 70%. The result, the ROE value had decreased by 13.27%. Further analysis, if from beginning the investors continued to use 100% equity capital and the project was delayed, the ROE value would decrease by 8.77%. However, if from the beginning the investors had planned an investment using 70% debt ratio and the project was delayed, the ROE value would decrease by 14.56%. Alternative financial solutions those were easy to do to make a profit based on the original plan were a combination of lowering the price of all hotel rooms by 15% and increasing the tenant mall price by 11.43%.

KEYWORDS: Investment, Mixed use building, Mall, Hotel, Financial analysis

I. INTRODUCTION

The developments in Indonesia today is more directed to mixed-use or multifunctional buildings as demands in the development of a city. Mixed use buildings are a planning approach to unite various activities and function in one area in the city. Multifunctional building construction is caused by many things, including: limited area, expensive land prices, strategic location, and high economic value.

Yogyakarta is one of big cities in Indonesia that has a lot of potential to be developed. It has a large number of population and lots of tourism potential assets which is still close to Javanese culture. Therefore, this city is one of economy and tourism centre in Java Island. In addition, the need for temporary residence for tourists and the need for shopping centre which provides a variety of daily equipment get along with the influenced from the urban development demands, then a multifunctional building is planned.

In the development of a construction project, it surely requires a lot of investment. Therefore, in the development of a project, there is a need for good planning, implementation and supervision. Poor project planning can cause delay project and the implementation will give impact on the additional costs that exceed the project budget. Project delays often cause in significant losses in terms of cost and time. If this project delay occurs, investors as parties who invest their money into the project must be able to take the right decision to still be able generate maximum profits from the capital they have invested. In this research, the investment value of the construction of a mixed use mall– hotel building will be compared if the project is carried out in time and if project experiences delays in the implementation of development.

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

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Vol. 7, Issue 9, September 2018

This research is conducted to determine the effect of projects delays on the value of investment in the construction of Mall – Hotels. Investment analysis carried out in this research is financial calculation of Mall – Hotel building located in Yogyakarta Province, Indonesia.

There are several objectives to be achieved in this study. The main aim is to do Mall – Hotel investment analysis development. The second aim is to learn the effect of investment project caused by the delay project of Mall – Hotel. And the third aim is to give financial solution to investors to still generate profits from Mall – Hotel construction.

II. LITERATURE REVIEW

Mixed Use Building

Mixed use buildings or multifunctional building is a combination of two buildings or more in one place in coordinative way and related to one another such as: office, shopping center, apartment, and store. In a book entitled “Office Development Hand Book”[5], mixed-use building is one of business area multifunction, part of city in which include different activities inside it, its development must have clear role and accurate related to each activities functions.

Some advantages from the concept of mixed-use building construction according to Llewelyn-Davies [3] are: a more comfortable access to various facilities, reduce traffic in travel, bigger chance to social interaction, create various social community, energy efficiency, more diverse for lifestyle, revitalization and city growth generators and surrounding area, also improve survival of city facilities and support for small business.

Hotel

Based on The American Hotel & Motel Association [9], hotel is a place to provide lodging, food, and beverage, also other services, to be rented for guests or people who stayed temporary. Meanwhile, according to Sulastiyono[7], hotel is a company operated by owner and provides food, beverages and room facilities to sleep for people who travel and afford to pay the rent in suitable cost with a service received without special agreement.

Mall

According to Beyard and O’Mara [1], mall is a group of trade center units that are built and established in a location that is planned, developed, started, and regulated into a unit of operation (operation unit), related to location, the size of store, and shopping area from that unit. In line with this, according to Maitland [4], Mall is a shopping center that has one or several big stores as an attraction of small retails and restaurant with buildings typologies like stores facing the main corridor of mall or pedestrian which are the main elements from mall, with function as circulation and as communal space for interaction between trader and visitors.

Investment

Investment is a capital investment done by investor, both foreign investor or domestic in various business field open for investment with aims to get profit, according to Salim and Sutrisno[6]. Meanwhile, according to Tandelilin[8], investment is commitment or number of funds or other resources carried out at this time to obtain number of profit in the future. The bigger income received, the bigger investment received. However, if the interest given is higher, then the interests to do investment will lower. It is due to the lower investment value will be obtained in the future.

Debt to Capital Ratio

According to Harahap[2], debt to capital ratio is a ratio that describes relation between companies debt to capital, this ratio can be seen from how far company funded by debt or external parties with the company ability is described by capital. This ratio is also called by solvability ratio/leverage. Debt to capital ratio plays important role to sustainability fund of a project. Debt to capital ratio or in other word is a ratio that measure how big company is funded by debt. Debt to capital ratio on a project is different from the ratio owned by other project. It is based on point of view and thought of the owner of project. Debt to capital ratio can be divided into several points of view, as follows:

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Vol. 7, Issue 9, September 2018

- **Investor Point of View**
The Investor wants project can be funded 100% by debt. The investor considers if the project can be funded 100% by debt without capital, then the project is feasible to run.
- **Investment Point of View**
This party has own point of view to finance its project by 100% using equity capital. This party considers if a project can be funded 100% by equity capital, then the project is feasible to run.
- **Practitioner Point of View**
In general, practitioner point of view describes project funded which generally occurs in a real condition. In this point of view, the project is usually funded by 30% equity capital and 70% debt. This percentage is followed by maximum limit of debt percentage which can be issued by bank, which is 70% from the project value.

III. RESEARCH METHODOLOGY

The analysis calculation was done to know how far the impact occurred on project investment value from the delay construction of Mall– Hotel project in Yogyakarta. Investment analysis which would be valued by several tools, which was: Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period (PP), and Return on Equity (ROE). In each tools would be compared to result obtained from analysis on project plan schedule and project realization schedule. After obtained the impact of project delay, then the financial solution was looking to return investment values based on initial project planning.

The analysis discussed in this study was the financial analysis of cash flow calculation. In this analysis would be discussed cash flow calculation with 2 different conditions. First, planning schedule cash flow with cash out calculation from Mall–Hotel construction followed initial construction planning schedule of 26 months. Second, realization schedule cash flow with cash out calculation from Mall – Hotel construction followed construction realization schedule which had been delayed to 43 months.

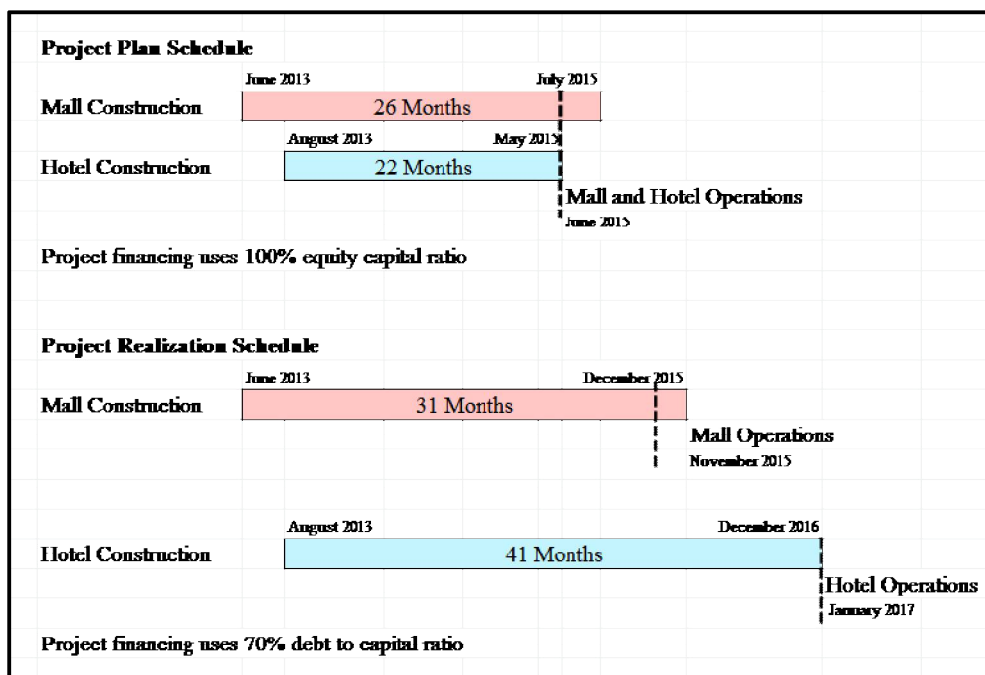


Figure 1. Project Development Schedule

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

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Vol. 7, Issue 9, September 2018

In cash flow calculation, there was cash in and cash out which was obtained from development stage and Mall–Hotel development operation. Cash out was obtained from: the cost of land acquisition, permission, design fees, construction costs, interior, marketing, employee wages, electricity costs, water fees, license fees, and other costs. Meanwhile cash in was obtained from: mall tenant rental fees, service charges, hotel room costs, food and beverages, hotel facilities, ballrooms, meeting rooms, and banquet services. Cash flow calculation was also done with 2 alternative capital ratios. The first cashflow calculation used 100% equity capital ratio and the second cash flow calculation used 70% capital ratio and 30% equity capital.

IV. ANALYSIS AND RESULTS

In this study, cashflow calculation was carried out for 20 years since the commencement of construction with the remaining value of the building at the end of the 20th year considered to be exhausted. The total value of cash out and cash in each mall and hotel building for 20 years for the planned schedule was shown in Figure 2.

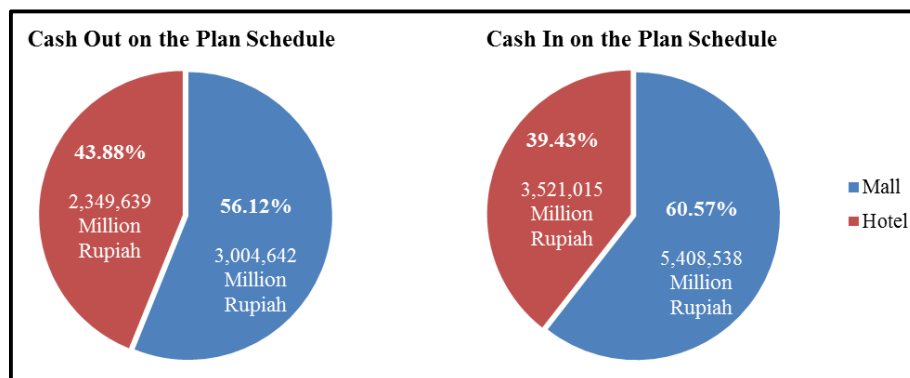


Figure 2. Amount of Cash Out and Cash In on the Plan Schedule

On the realization schedule, capital ratio 70% of debts was used, but interest costs were not included in the total cash out of this realization schedule. Total value of cash out and cash in each mall and hotel building for 20 years for the realization schedule was shown in Figure 3.

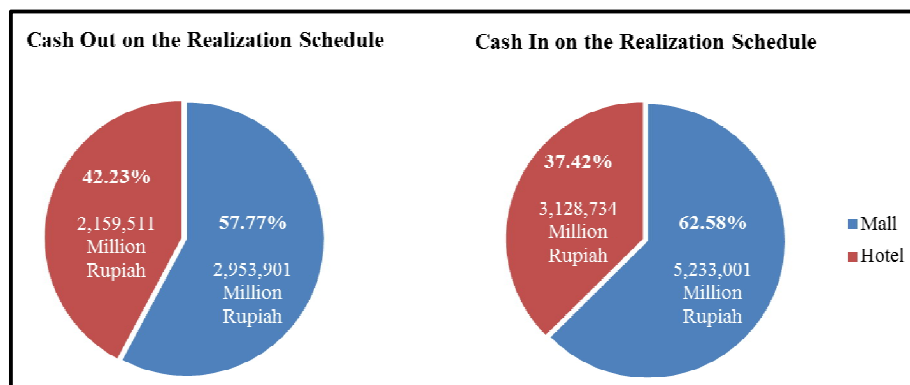


Figure 3. Amount of Cash Out and Cash In on the Realization Schedule

From the calculation of cash in and cash out for 20 years, then the cash flow calculation was carried out. Comparison of planning schedule cashflow charts and realization schedules cash flow charts using 100% equity capital ratio could be seen in Figure 4.

International Journal of Innovative Research in Science, Engineering and Technology

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Vol. 7, Issue 9, September 2018

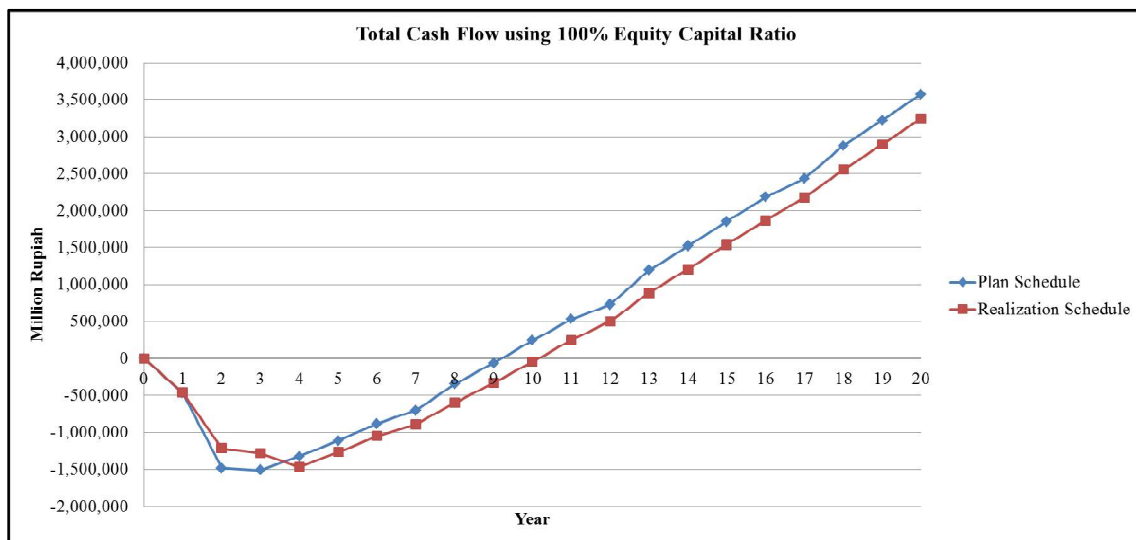


Figure 4. Cash Flow using 100% EquityCapitalRatio

From the calculation of planned schedule cashflow and realization schedule cash flow using 100% equity capital ratio, the results obtained were Net Present Value, Payback Period, and Internal Rate of Return as shown in Table 1. The NPV calculation on this cashflow used the Minimum Attractive Rate of Return value (MARR) of 12%.

Table 1. Comparison of Cash Flow Calculations using 100% EquityCapitalRatio

100% Equity Capital Ratio		Plan	Realization	Difference
Mall	NPV (MARR 12%)	83,895	26,480	-68.44%
	Payback Period	105	110	-4.76%
	IRR	13.24%	12.39%	-6.45%
Hotel	NPV (MARR 12%)	41,498	(16,621)	-140.05%
	Payback Period	113	132	-16.81%
	IRR	13.32%	11.42%	-14.28%
Combined	NPV (MARR 12%)	125,393	9,859	-92.14%
	Payback Period	108	117	-8.33%
	IRR	13.26%	12.10%	-8.77%

In the cash flow calculation with 100% equity capital ratio, the greatest influence of project delays on investment assessment parameters was occurred in hotel building investments. This was due to project delays that occurred due to delays in the construction of hotels that spend 19 months and resulted in delays in revenues from hotel operations. The most significant reduction in investment valuation parameters occurred at the IRR value which decreased by 92.14%.

Comparison of planning schedule cashflow charts and realization schedules cash flow charts using 70% capital ratio debt could be seen in Figure 5. The debt interest used in this calculation was 12.5% per year.

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Vol. 7, Issue 9, September 2018

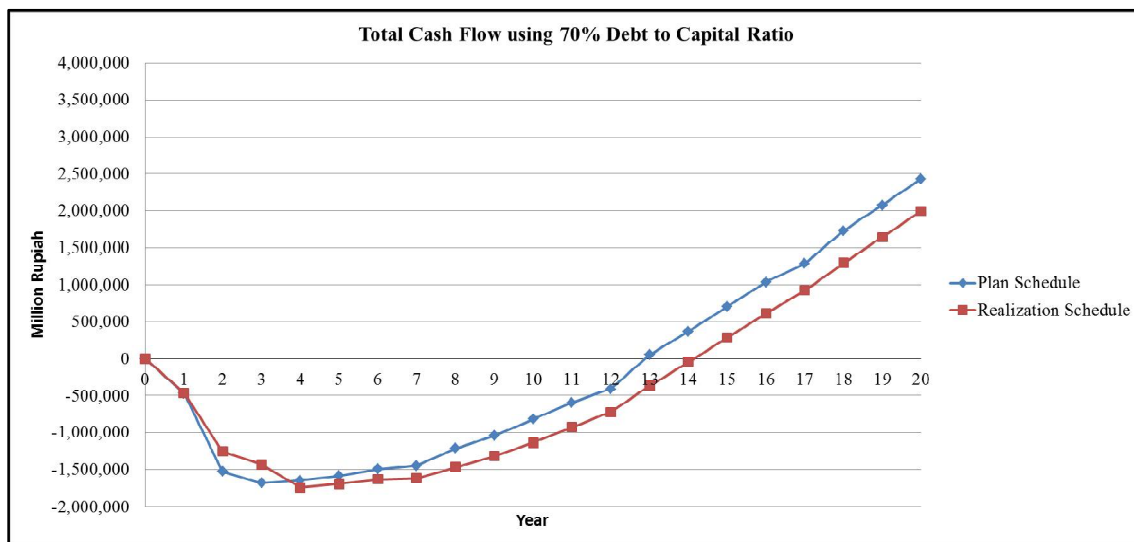


Figure 5. Cash Flow using 70% Debt to CapitalRatio

In the calculation using the 70% debt to capital ratio, only a combined calculation was carried out. This was because loans submitted to the bank were based on the calculation of total investment in malls and hotel buildings. The calculation results of planned schedule cashflow and realization schedule cash flow using 70% debt to capital ratio could be seen in Table 2.

Table 2. Comparison of Cash Flow Calculations using 70% Debt to CapitalRatio

70% Debt to Capital Ratio		Plan	Realization	Difference
Combined	NPV (MARR 12%)	(452,760)	(588,009)	-29.87%
	Payback Period	150	165	-10.00%
	IRR	7.91%	6.54%	-17.31%
	ROE	13.47%	11.50%	-14.56%

By using 70% capital ratio of the debt, the most significant effect of project delays was the decrease in the NPV value of 29.87%. The IRR value obtained from this calculation experienced a significant decrease when compared to using a 100% equity capital ratio. This happens because of the debt interest payments and main debt.

As a result of a decline in the value of investment parameters caused by delays in project development, it was necessary to find solutions that could be done to increase the value of investment parameters in accordance with the initial plan. In this study, several alternative solutions were taken which were expected to return the value of the investment assessment parameters of this project in accordance with the initial plan. In order to make it look clearer and easier to compare, the results of the calculation of financial solutions were shown in Table 3 below.

Table 3. Alternative Financial Solutions

Alternative Solutions	Note	Result
Alternative 1	Lower the price of all hotels rooms by 15% in the first three years since the hotel was operated, with the expectation that the rate of occupancy hotel could reach 90%.	ROE rose from 11.50% to 11.82%. ROE < Initial ROE 13.26%

International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

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Vol. 7, Issue 9, September 2018

Table 3 (Continued). Alternative Financial Solutions

Alternative Solutions	Note	Result
Alternative 2	Provide promo price for hotel guests who stayed for 3 nights in deluxe room type, with the expectation that the occupancy rate of deluxe rooms could reach 100%.	ROE rose from 11.50% to 13.09%. ROE < Initial ROE 13.26%
Alternative 3	Raising the mall tenant renting price by 12.5%	ROE rose from 11.50% to 13.30%. ROE > Initial ROE 13.26%
Alternative 4	Lower the price of all hotels rooms by 15% in the first 3 years with the expectation that the occupancy rate of hotel rooms could reach 80% and raised the mall tenant renting price by 10%.	ROE rose from 11.50% to 13.05%. To achieve initial ROE of 13.26%, it was needed to increase the mall tenant rent price by 11.43%.
Alternative 5	Provide promo price for hotel guests who stayed for 3 nights in deluxe type room with expectation the occupancy rate of deluxe room could reach 80% and raised the mall tenant renting price by 10%.	ROE rose from 11.50% to 13.93%. To achieve initial ROE of 13.26%, it was only needed to increase the mall tenant rent price by 5.26%.

V. CONCLUSION

From the analysis that has been carried out on changes in investment assessment parameters due to delays in the construction of a Mall – Hotel project in Yogyakarta, the conclusions could be drawn as follows:

1. Based on the financial analysis that had been done on the planned schedule cash flow, investment using 100% equity capital produced an IRR value which was also ROE value of 13.26%. Meanwhile, if the investment was carried out using debt capital ratio of 70%, the ROE value generated would be 13.47%.
2. In realization schedule cash flow, the used of 100% equity capital generated ROE value of 12.10%. Meanwhile, if using debt capital of 70%, would be generated ROE value of 11.50%.
3. The impact of project delays and ratio changes of debt capital on this study resulted significant ROE value changing. The initial investor planning was that the project could run according to the plan schedule using 100% equity capital, and could generate ROE value of 13.26%. But in the realization, the project experienced delays and funding changes occurred by using 70% debt ratio. From this realization only obtained ROE value of 11.50%.
4. There were several alternative solutions that could be done to increase the value of investment assessment parameters as the impact of project delays in project development, the easiest and most feasible for investors was an alternative solution 4. To achieve an initial ROE plan of 13.26%, investors could reduce the price of all hotel rooms by 15% in the first 3 years with the expectation that the occupancy rate of hotel rooms could reach 80% and also raise the mall tenant renting price by 11.43%.

REFERENCES

- [1] Beyard, M. D. and O'Mara, W. P., "Shopping Centre Development Handbook", Washington D.C.: the Urban Land Institute, 1999.
- [2] Harahap, S. S., "Analisis Kritis Atas Laporan Keuangan", Jakarta: Rajawali Pers, 2013.
- [3] Llewelyn-Davies (firm), "Sustainable Residential Quality: Exploring the Housing Potential of Large Site", London: London Planning Advisory Committee, 2000.
- [4] Maitland B., "Shopping malls Planning and Design", London: London Construction Press, 1987.
- [5] Office Development Hand Book, Washington D.C.: the Urban Land Institute, 1998.
- [6] Salim, H.S. and Sutrisno B., "Hukum Investasi di Indonesia", Jakarta: PT. Raja Grafindo Persada, 2008.
- [7] Sulastiyono A., "Manajemen Penyelenggaraan Hotel: Manajemen Hotel", Bandung: Alfabeta, 2011.
- [8] Tandililin E., "Portofolio dan Investasi". Yogyakarta: Kanisius, 2010.
- [9] The American Hotel and Motel Association (AHMA), USA: Educational Institute American Hotel and Motel Association, 1988.