

Capital budgeting - A case study of Lexar Business Support Limited

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ABSTRACT: This study examines capital budgeting through a practical case study of Lexar Business Support Limited, a newly established travel and hospitality venture in Nigeria. The paper presents capital budgeting as a decision process for selecting long-term investments that maximize stakeholder value, emphasizing the role of time value of money, the cost of capital, and the need to avoid value loss from capital-intensive commitments. It reviews major appraisal techniques, including payback period, accounting rate of return (ARR), and discounted cash flow (DCF) approaches, with particular attention to Net Present Value (NPV) as a primary value-maximizing criterion and Internal Rate of Return (IRR) as a complementary measure. The discussion further links financing costs to investor required returns and describes how risk and risk premium influence discount rates, drawing on the Capital Asset Pricing Model (CAPM) framework.

Using the narrative development of Lexar Business Support Limited, originating from an academic study-tour need, leveraging stakeholder expertise across hospitality, operations, finance, and legal structuring the case illustrates how projected cash flows and investment criteria can be used to evaluate feasibility and guide investor discussions. The study's intent is to provide a clear, nonfinance-friendly yet rigorous understanding of how capital budgeting appraisal methods can support managerial and investment decisions for start-up ventures in real market conditions.

KEYWORD: Capital budgeting, NPV, IRR, ARR, Lexar Business Support Limited JEL Classifications: G12, G30, G31, G32

BACKGROUND

Capital budgeting evaluates long-term investment choices with aim of determining the which of the available options would maximize the value of the firm's stakeholders especially the shareholders. A capital budgeting can be an investment into new or existing venture, property renovation, remodeling or enhancing, purchase of plant and equipment, introduction of new products and penetration into new markets or opening new plants (Apochi, et. 2022; Balarabe, 2020). Capital budgeting projects are capital intensive usually regarded as sunk because invested costs are difficult to recover if the investor decides to discontinue the projects. Investments into capital projects are expected to generate a stream of future cash inflows. While many factors including non-financial variables required considerations in making capital decisions, there is the need to ascertain that capital investment does not lead to value loss to the investor rather it should attract additional value towards maximizing the interests of the shareholders (Darmansyah, Ali and Parveen, 2025; Ahmed, 2013; Onoriode and Ehiedu, 2025; Shchurina¹ and Prunenکو, 2018). To measure that value is created the cash outflows (capital outlay) and the future cash inflows should be subjected to some financial analysis to determine the absolute profit but importantly the time of value of money as inflation reduces the purchasing power over time. There are several methods of evaluating investment projects depending on the investors priority which can be either or a combination of profitability, risk appetite and time value of money (Sharma, 2025, Sinaga, 2023; Sivaruban, 2018). These methods include the payback period method for risk averse investors and liquidity management, the accounting rate of return (ARR) methods (profit margins, return of investments or assets) for investors that are profitability bias and discounted cash flow methods for investors that prioritize time value of money and maximization of shareholders' values.

However, the Net Present Value (NPV) has been established as the primary value-maximizing criterion (Sekhar, et. Al., 2025). A complimentary alternative methods including internal rate of return (IRR) and other discounted value methods like discounted payback period method. The NPV as a dominant investment appraisal method measures the present value of expected net cash flows discounted at an appropriate opportunity cost of capital (often WACC for projects financed by a mix of equity and debt). The cost of capital is commonly an alternative of interest or hurdle rate, inflation rate or any rates that compensate for loss of value overtime. On the other hand, IRR is the discount rate that at which NPV is zero. The IRR is compensatory for loss of value on the

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investment. A higher rate above the IRR gives returns above loss of value on the investment. This implies that the IRR is the lowest return rate for acceptable investment, hence while NPV is a more acceptable criteria for capital budgeting decision.

It is pertinent to note that the return to the investor on his investment is the cost of fund to the user of the funds. The interest earned on a debt instrument investor is the cost of debt to the issuer of the instruments same as the dividends payable to a shareholder is the cost of equity to the issuer of the shares. According to Ahmad, Omar and Junor (2018) and equity and debts and related instruments are risk instruments. However, the risk level each of the instruments attract depends on a number of factors including firm and country risks. The investors who decide to invest in risk instruments other than risk-less instruments which are mostly government and central bank instruments (sovereign bonds, treasury bills, central bank certificates and open market operations bills) will require risk premium to compensate for the extra risk.

Sharpe (1964) developed the capital asset pricing model (CAPM) as the expected return for a risk taker which is the risk-free rate plus the output of a market coefficient and the risk premium. The model is:

$ERR = Ke = RFR - \beta(MRR - RFR)$, where the $(MRR - RFR)$ is the risk premium.

Where the ERR represents the expected rate of return, Ke is the cost of capital, MRR is the market rate of return, RFR is the risk-free return and β is the market volatility.

Scholars like Lintner (1965) and Mosin (1966) in their study of the valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets and Equilibrium in a capital asset market put the model and scrutiny which has made it to stand the test of time

This case study of Lexar Business Support Limited was developed to provide a general understanding of capital budgeting appraisal under different methods especially for non-finance students and practitioners that desire some basic knowledge of capital budgeting and the appraisal methods.

Case Study

Lexar Business Support Limited was established by three colleagues, Emmanuel, Adeche and Gbite in August, 2022. The trio met during their executive in Master of Business Administration programme (EMBA) at a Business School. The idea came when they were assigned by the Course Director to arrange for a travel agency to convey their class for a two-week case study of some companies in the Eastern, Southern and Northeastern regions of Nigeria. They were also to arrange for the hotel accommodations of the participants during the tour. Aside from the high costs of air travel, which many of the participants could not readily afford at the time, the few airline operators were also battling with aviation fuel shortages, which have resulted in several flight delays, sometimes for two days or more, and in extreme cases, outright cancellations after waiting for several hours at the airports¹. Besides, most of the participants want to enjoy the nature and topography that come with road travel, not minding the inconveniences that come with them.

In response to the assignment, the trio went to several motor parks in Lagos, including Ojota, Jibowu, Mile 2 and Oshodi. Some of the buses available at the parks were either too small for convenient sitting, had dysfunctional cooling systems, or were excessively expensive, or a combination of them. After a long deliberation following several searches, they decided to approach a private company with a fleet of staff buses that they rent out on occasions. Luckily, Emmanuel's auntie (Ms. Angel) is the CEO of the company, and with her influence, they were able to get a good bus at a very good price. The study tour was made, and everyone was happy for the success, especially for the transportation and lodgings. Surprisingly, the success of the tour became a big talk in the University and participants in other programmes in the university approached Emmanuel and Angel at different times to arrange for their trips.

Brief Background of Adeche, Emmanuel and Gbite

Prior to her Ph. D programme, Angel assisted her mum to run a restaurant in Uyo while she was still in secondary school. Even though she studied Microbiology at the University of Port Harcourt, she developed so much interest in cooking that she ran a mini-bukateria while on campus. She always looked forward to having her own restaurant in Lagos after completing her Ph. D programme where she wants to serve Calabar delicacies in addition to continental and Chinese dishes. She currently works for an oil servicing company.

Emmanuel is the first born in the family of five. He has some experience in the hospitality business. Her maternal uncle runs the most successful hotel in Kano, where he grew up. He spent his holidays, including the nine months of the ASUU strike some years back while he was still an undergraduate student at the University of Abuja, working in the hotel. He was involved in running the hotel anytime his uncle was away. He resigned his appointment with a first-tier bank to focus on his M.Sc. programme which he finished two years ago before embarking on his Ph.D programme.

Lastly, is Gbite. He is a financial expert with a strong background in law from University of Oxford and the Nigerian Law School. He has experience in stock markets, focusing on derivatives. He went for some short courses in finance in Nigeria, the USA and South

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Africa. He works for a financial derivative company in Lagos. He always dreamed of running his own company, though he was never sure what exactly it would be. His father, a retired ambassador to the Republic of Spain, Iraq, China and Japan, gave his property in Surulere, close to National Stadium, as a way of encouraging her to pursue his dream. The property is suitable for all kinds of businesses, including a travel agency, and it can also be leased out with ease.

How it Started

They decided that there would be no more charity services for those that approached them to organize study tours. They realize that each of them has some experience that can be combined to run a business venture. They decided to start a tour and hospitality business. They do not intend to have their own hotels but rather to play somewhere along the value chain, especially in the bookings and reservations of hotel accommodations with reputable hotels. They consulted Olaniyi of Dele Alozie & Co, a law firm, to register the company and complete all necessary legal paperwork.

They approached Kemi Richard, another colleague on the Ph. D programme who works as a senior financial analyst in Ademola Investment Company Limited, to assist with financial projections for the next five years to enable them to conclude discussions with investors like Austin Green Investments, Falo Limited, and Okpe Capital Investment Group. The three investors have shown some non-committal interest in investing. Kemi, having taken cognizance of the global environment and macroeconomic variables, developed a five-year income statement and statement of affairs, otherwise known as a balance sheet (see Exhibits I and II). Some of the assumptions are that the gross domestic growth rate will be stable at 3% p.a. and corporate tax at 30% of all taxable incomes. Sales are expected to grow at a rate of 10% for the first two years, 25% on the third anniversary, and 50% thereafter on each of the preceding years (see Exhibit III). The proposed shareholdings are in Exhibit IV.

Emmanuel Francis, a conservative risk taker, has advised Gbite to lease out the property in Surulere rather than commit it to a business with no assurance of success. Sally felt otherwise. Nevertheless, he wants to base his final decision on facts rather than sentiments. He approached KunleEco, a reputable estate manager at Chen & Co., a firm known for managing over 50% of properties in that axis of Surulere, to provide estimates of the annual rentals for the next five years. He came up with the rental projections as requested (see Exhibit V) while also putting the cost of renovation to make the property attractive at N5,000,000.00 only which implies he has to sell his FGN bonds that gives him interest of 12% p.a against earning 18% on a bluechip stocks on the stock exchange. The market volatility is estimated at 1.3. The company has been registered with CAC, and all the legal documentation is almost completed. Each of the shareholders is willing to contribute their share of equity either in cash, kind, or both. The trio are willing to devote their time 100% to the business if it starts. They also agreed to be paid the same salaries until it is otherwise reviewed, regardless of the ratios of equity contributions. However, sharing of profits and losses would be in accordance with the shareholding structure and relevant statutory requirements. They are looking forward to a great future for themselves, with or without the company. They each wish that their entrepreneurial skills and desires to run their own business can soon be realized. They want to take more than an EMBA degree from Lagos Business School; they want to be business owners.

Dilemma:

You have been approached as an expert in advanced strategic financial management and someone who is known for your prowess in finance and enviable analytical skills to advise the trio on what to do with cognizance to the following:

1. Determine and contrast each of the following from the case study:
 - a) cost of equity for the company
 - b) the overall cost of capital
 - c) the present value
 - d) net present value
 - e) the internal rate of return
 - f) the payback period
 - g) discounted payback period
 - h) Accounting rate of return
2. What should Gbite do with the property in Victoria Island. Kindly, support your position with necessary computations using the cost of capital in (ib) above to discount your cash flows
3. In what situations is payback period techniques preferred in capital budgeting appraisal?
4. What are the uses of cost of capital and how is it different from cost of equity?
5. What other non-financial factors should be considered in capital budgeting decisions?

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Exhibit I

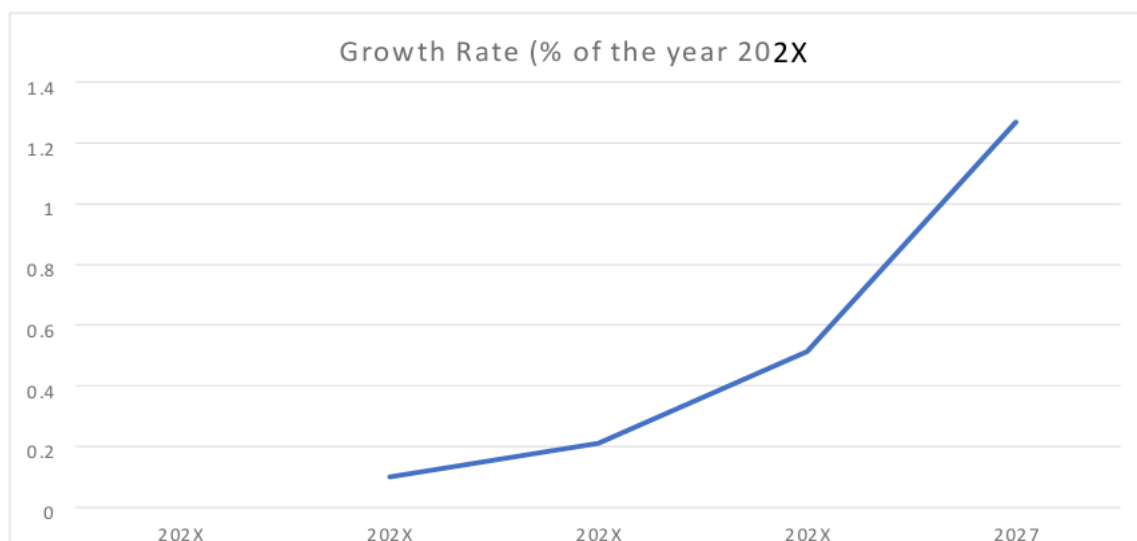
	Lexar Business Support Limited				
	Five Year Projected Income Statements				
Descriptions / Years	202x	202x	202x	202x	202x
Revenue (N'000)	15,000	16,500	18,150	22,688	34,031
Cost of Goods Sold	(3,750)	(4,125)	(4,538)	(5,672)	(8,508)
Operating Profit	11,250	12,375	13,613	17,016	25,523
Less: Admini, Selling & Adverts	(3,375)	(3,713)	(4,084)	(5,105)	(7,657)
Less: Depreciation	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Interest Expense	(11)	(11)	(11)	(11)	(11)
Profit before Tax	5,365	6,152	7,018	9,400	15,356
Corporate tax @ 30%	(1,609)	(1,846)	(2,105)	(2,820)	(4,607)
Profit after Tax	3,755	4,306	4,913	6,580	10,749

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Exhibit II

Lexar Business Support Limited					
Five Year Projected Statements of Affairs (Balance Sheet) as at....in N'000					
Descriptions / Years	202x	202x	202x	202x	202x
	N'000	N'000	N'000	N'000	N'000
Fixed Assets					
Land & Building	8,000	8,000	8,000	8,000	8,000
Motor Vehicles	17,000	17,000	17,000	17,000	17,000
	25,000	25,000	25,000	25,000	25,000
Current Assets					
Inventory	1,250	800	1730	2050	1800
Debtors	500	290	320	1200	2200
Cash & Bank	3000	4500	4200	4700	7400
Total	4,750	5,590	6,250	7,950	11,400
Total Assets	29,750	30,590	31,250	32,950	36,400
Current Creditors					
Trade & Other Creditors	995	1,284	1,337	1,370	651
Non-Current Creditors					
7% Debenture	15,000	15,000	15,000	15,000	15,000
Net Assets	13,755	14,306	14,913	16,580	20,749
Shareholders Fund					
Equity	10,000	10,000	10,000	10,000	10,000
Retained Earnings	3,755	4,306	4,913	6,580	10,749
Net Worths	13,755	14,306	14,913	16,580	20,749

EXHIBIT III



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EXHIBIT IV

Lexar Business Support Limited	
Shareholding Structure	%
Sally	45
Fatima	35
Ekaete	20

EXHIBIT V

Five Year Rental Projection for Sally's Property in Victoria Island	
Year	Rentals (N'000)
202x	7,000
202x	8,500
202x	8,500
202x	8,500
202x	10,000



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