GRADUATE SCHOOL of BANKING
AT LOUISIANA STATE UNIVERSITY

Bricks and Mortar National Bank

Freshman Case
Week 1

Subject Area:
Capital Budgeting

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2017 Session

BRICKS AND MORTAR NATIONAL BANK

Capital Budgeting: Decision on Purchase of ATM

In June, 2015 Brenda Miller and Steve Davis, executives in the operations department of the Shores National Bank, were responsible for making an ATM purchase decision for their bank.

Miller and Davis knew that the bank would gain new customers as a result of adding the ATM. They also believed that the enhanced service that the ATM would give their established customers would help build loyalty to the bank.

The city of Pasatawa, MS is an up and coming popular place for tourism and sports fishing. For this reason, Miller was convinced that the ATM together with the bank's membership in a national network would generate a large flow of cash from transaction fees paid by out-of-town visitors. The bank's location on the town's main street near the marina seemed ideal for attracting both local and out-of-town traffic. Another competitive advantage was the lack of other cash sources in the area. All restaurants and motels in Pasatawa do not accept out-of-state checks for cash, and other financial institutions in the area did not seem interested in developing this business.

Miller and Davis had discussed the placement of the ATM with the bank's Board of Directors. The consensus of opinion favored locating the equipment in the main building near the drive through banking facility. This would be a well-lighted area open to the main street. During regular business hours the ATM would be visible from several viewpoints in the bank, so that security would not be a problem.

Installation of the ATM could be accomplished with modifications to one exterior wall of the bank and some interior structural work at a cost of $10,000. Miller and Davis estimated that the ATM operation would require about 10% of the bank's floor space. This was considered by the bank's administrators to be extra space, and was not currently in use by any of the departments. The total depreciation expense for the bank building was $150,000 annually. Davis suggested to Miller that 10% of this expense could be allocated to the ATM. He went on to say that since depreciation was a non-cash expense, this allocation would have no effect on estimated cash flows from the ATM investment.

Miller had volunteered to investigate potential start-up costs. She found that the bank would need supplies valued at $2,158, and would spend $4,000 in developed software. There were several start-up costs associated with the network, of which the bank would be a member. These included an implementation fee of $1,500; ATM installation expense of $750; internet installation of $300; and membership in the network of $200.

There were two types of personnel expense that Miller though should be included in start-up cost: payroll cost for training personnel to operate and service the ATM equipment and travel expense for training purposes. Based on her experience, Brenda Miller estimated that payroll costs would be $1,000 and travel expenses would be $1,000.

Miller listed the start-up costs for Davis, and added that there were several costs that would be capitalized -carried on the bank's balance sheet as long-term fixed assets and depreciated over several years. For example, the cost of the ATM configured to the bank's specifications was $25,800. Of course, there would be no cash outflow for the building since it already existed. Modification of the building at a cost of $10,000 would be depreciated as part of the ATM project.

The last two depreciable assets were the equipment for heating and cooling, and signs that would help announce the new ATM service. Cooling was especially important in the warm humid climate of the Gulf. The heating and cooling equipment would cost $4,650, and new signs would require an outlay of $6,600. Both assets fall into the five-year recovery period under MACRS, which is the same time frame as the economic life of the ATM machine.

Depreciation for years 1 through 5 would be calculated as a percentage of the depreciable basis. For years 1 -5, the MACRS percentages are 20%, 32%, 19.2%, 11.52% and 11.52% respectively.

While Miller was collecting information on the cash outflows connected with the start-up costs, Davis worked on estimates for on-going expenses. The first three expenses that would be incurred each month were the ATM maintenance contract, $460; and the estimated employee expense which would include on-call services of staff at $1,030.

Other monthly fees were associated with the network membership. These include the following:

Card Issuance	$384
Terminal Fee	266
Network Management	300
ATM replenishing services	400
Marketing Support Fee	550
Network Fees	300
Intangible Tax	260

Miller was surprised to see this long list of on-going expenses, and asked her associate whether he thought the ATM would be profitable for the bank. Davis answered that he had some ideas on estimating the profitability of the investment, but that there were several additional pass-through expenses that would occur each month. The bank would pay $197 for the internet line, $65 for the modem/router rental and $278 for other miscellaneous supplies for the ATM.

Miller recalled that she and Davis had estimated a cash inflow of $1,050 from service charges at $1.00 per transaction. However, she knew that this income would be small compared with the start-up and on-going costs of the ATM. Davis then suggested that they consider the implicit income that could be attributed to the bank's investment in the ATM. He pointed out that Shores National had pre-tax operating income of $280,583 on average each month. If a new marginal amount of pre-tax income could be related to the purchase of the ATM, this could be added to the explicit income from customer transactions.

After conferring with other members of the Bank's management team and the Marketing Department, Davis and Miller decided to use 2% as the estimated increase in pre-tax operating income associated with the ATM and network membership. They believed this amount would be in addition to the direct income from network transactions.

"We just need a couple of facts before we calculate the expected rate of return from making the ATM investment," said Brenda, thoughtfully, "a discount rate for future cash flows and an estimated residual value of the ATM at the end of the investment period. What do you think, Steve?"

"On other comparable investments the bank requires a cost of capital of about 12% as an annual rate of return" Steve replied. "I think we should use that rate to discount future cash flows. Let's use an estimated figure of $5,000 as the residual value. Of course, this is just a guess, but so are lots of other figures in our analysis. At least we know the tax rate is 34%. "

"I like to think of our guesses as probabilities," Brenda said. "It's time for us to complete the evaluation of this investment for our presentation at the Board meeting tomorrow. Here are several exhibits that Mr. Sloan, the President, recommended for our calculations. He also gave me a list of questions he thought would be of interest to the Board members."

QUESTIONS:

1. **Based on the required rate of return of 12%, should we invest in the ATM and join the network?**

2. **What are your estimates for the NPV and IRR of the project?**

3. **What is the approximate breakeven point in terms of the additional income as a percentage of the bank's average pre-tax operating income? How low can this percentage be before the ATM investment becomes non-profitable?**

4. **How long will it take for the investment to pay back the initial startup costs?**

5. **We have another potential investment that has a Net Present Value of $17,000 and IRR equal to 18%. How would you compare these projects and which do you think we should select?**

Exhibit 1: Start Up Expenses

Supplies	$
Software	$
Switch Costs:	
Implementation Fee	$
ATM Installation	$
Internet Installation	$
Network Membership	$
Total Switch Costs	$
Personnel Training Expense	$
Training Travel Expense	$
Building &Equipment:	
ATM Cost	$
Building Modification	$
Building	$
Heating/Cooling Equipment	$
Signage	$
Total Depreciable Costs	$
Total Start Up Costs	$

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Ongoing Expenses Per Month

ATM Maintenance Contract	$
Employee Costs	$
Card Issuance	$
Terminal Fees	$
Network Management	$
ATM Replenishment Fees	$
Marketing Support Fees	$
Settlement Fees	$
Network Fees	$
Intangible Tax	$
Other Pass Through:	
Data Line	$
Modem/Router Rental	$
Monthly Supplies	$
Net Cost Per Month	$
Annual Costs	$

Exhibit 3:Cash Flow Estimation	Year 1	Year 2	Year 3	Year 4	Year 5
Income:					
Transaction charge					
Marginal Oper. Income					
Total added income					
Expenses:					
ATM Operat. Expenses					
Depreciation expense					
Total added Expenses					
Pre-tax marginal income					
Income taxes					
After-tax income					
add back depreciation expense					
Total oper. cash flow					
Salvage value year 5					
Gain on sale (5000-BV)	---	---	---	---	
Additional tax on sale					
AT income from sale					
Net cash flow					
Net present value					
Internal rate of return					
Payback period					
Profitability Index					