

Guillermo's furniture store scenario

[Economics](#), [Money](#)



There are three alternatives available to the Guillermo's Furniture Store. One is they can keep the current position or they can become broker or make it high-tech. Therefore, Guillermo's furniture store can divide the project into current project, High tech project and the broker project. Guillermo's furniture store needs to select the option which is good for them and can provide competitive advantage to the store. It has been clear that managers are responsible for the use of capital budgeting techniques to find out exclusive project. We have different types of capital budgeting techniques.

These capital budgeting techniques are: 1-Simple Payback, and/or Discounted Payback 2-Net Present Value (NPV) 3-Internal Rate Of Return (IRR) The simple payback period: " We can define the simple payback period as the expected number of years required to recover the original investment by Guillermo's Furniture Store" (Brown, et. al, (2006), i. e. if the store has invested \$300 millions in its project, then how much time it will take to recover its invested amount. Payback period is the first formal method used to evaluate capital budgeting projects. Here is the payback period for Guillermo's Furniture Store.

The cumulative cash flow of Guillermo's Furniture store at $t = 0$ is just the initial cost of $-\$300,000$. At Year 1 the cumulative cash flow is the previous cumulative of $\$300,000$ plus the Year 1 cash flow of $\$500$: $-\$300,000 + \$42,573 = -\$257,427$. Similarly, the cumulative for Year 2 is the previous cumulative of $-\$257,427$ plus the Year 2 inflow of $\$42,573$, resulting in $-\$214,854$. We see that by the end of Year 7 the cumulative inflows have more than recovered the initial outflow. Thus, the payback occurred during the third year. If the $\$40,584$ of inflows comes in evenly during Year 3, then

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the exact payback period can be found as follows: pic] Applying the same procedure to Project High-Tech and Broker, we find Payback period for them is 1.53 years and 5.89 years respectively. It is known that the shorter the payback period, the better. As the projects are mutually exclusive, Project High-tech would be accepted but Project current would be rejected. If the projects were mutually exclusive, High-tech would be ranked over Broker and Current because High-Tech has the shorter payback. Mutually exclusive project means that if one project is taken on, the other must be rejected (Brigham, 2004). Discounted Payback Period:

In the real world firms use a variant of the regular payback, the discounted payback period, which is similar to the regular payback period except that the expected cash flows are discounted by the project's cost of capital (WACC). So we can say that the discounted payback period uses the time value of money in its decision. Here, the discounted payback period is defined as the number of years required to recover the investment from discounted net cash flows generated from the project. If we look at the values of discounted cash flows we can find that the discounted payback period for Current project is 9. years whereas High-Tech and Broker project 1.4 year and 8.1 years respectively For Projects Current, High-Tech and Broker, project High-Tech ranked higher as compared to the others (Brigham, 2004). Payback Vs Discounted Payback: We can also say, that a payback is a type of "breakeven" calculation in the sense that if cash flows come in at the expected rate until the payback year, then the project will break even for that year. Here the simple payback period doesn't consider the cost of

capital whereas the discounted payback does consider capital costs it shows the breakeven year after covering debt and equity costs.

The biggest drawback of both the payback and discounted payback methods is that they ignore cash flows that are paid or received after the payback period of the project. For example, suppose Project High-Tech had an additional cash flow at Year 5 then the discounted and simple payback period will ignore these values. In real live project with more cash flow after the pay back period would be more valuable than Project with no cash flow, yet its payback and discounted payback make it look worse. This is the reason, the shorter the payback period, other things held constant, the greater the project's liquidity.

Apart from this, since cash flows expected in the distant future are generally riskier than near-term cash flows, the payback is often used as an indicator of a project's riskiness because the longer the payback period the higher is the risk associated with the project (Brigham, 2004) (Fabuzzi, 2003). Overall there is only one major demerit of the discounted cash flow method that it do not consider the cash flow generated by the company after the payback period and due to this a project with high cash flow after the payback period is rejected in front of a project that pays no cash flow after the payback period.

Net Present Value (NPV): NPV is known as the best technique in the capital budgeting decisions. There were flows in payback as well as discounted pay back periods because it don't consider the cash flow after the payback and discounted pay back period. To remove this flows net present value (NPV)

method, which relies on discounted cash flow (DCF) techniques is used to find the value of the project by considering the cash flow of the project till its life. To implement this approach, we proceed as follows: a. Find the present value of each cash flow, including all inflows and outflows, discounted at the project's cost of capital. b.

Sum these discounted cash flows; this sum is defined as the project's NPV. c. If the NPV is positive, the project should be accepted, while if the NPV is negative, it should be rejected. If two projects with positive NPVs are mutually exclusive, the one with the higher NPV should be chosen. [pic] Here CF_t is the expected net cash flow at Period t , k is the project's cost of capital, and n is the life of the project. Cash outflows (initial investments like expenditures such as the cost of buying equipment or building factories) are treated as negative cash flows for the project because the investor cash position decrease with the investment.

In evaluating Projects Current, High-Tech and Broker, only CF_0 is negative, but for some project the cash flow remains to be uneven (Brigham, 2004). We can find out the most effective project using NPV method by following techniques. An NPV of zero signifies that the project's cash flows are exactly sufficient to repay the invested capital and to provide the required rate of return on that capital. If a project has a positive NPV, then it is generating more cash than is needed to service the debt and to provide the required return to shareholders, and this excess cash accrues solely to the firm's stockholders.

This is the reason, if a firm takes on a project with a positive NPV, the wealth of the stockholders increases due to inflow of net cash in their investment. If we take the projects Current, High-tech and Broker shareholders' wealth would decrease by \$26,755 if the firm takes on Project Current, increase by \$955,065 if it takes the project High-Tech but by only increase by \$27,014 if it takes on Project Broker. So we can easily decide, as the projects are mutually exclusive the Project high-tech is ranked higher than the other two (Brigham, 2004).

We can also say that there is a direct relationship between NPV and EVA (economic value added of the project). As NPV is equal to the present value of the project's future EVAs generated each year. This is the reason if a project has a positive NPV its EVA and MVA (market value added, or the excess of the firm's market value over its book value) will remain positive (Fabuzzi, 2003). This is commonly used capital budgeting technique by the managers in the current scenario. Internal Rate of Return (IRR) The internal rate of return is similar to the concept of calculating bond yield to maturity.

Similar concepts are used in capital budgeting when the internal rate of return (IRR) method is used to evaluate any project. The IRR is defined as the discount rate that equates the present value of a project's expected cash inflows to the present value of the project's outflows: [pic] Here CFO is the cash out flow from the project where CFI is the cash inflow from the project. Now how we can find the most valuable project using IRR there are following techniques that will help to find out which project among Project Current, High-Tech and Broker is most valuable: i) The IRR on a project is its expected

rate of return. i) If the internal rate of return exceeds the cost of the capital (WACC) used to finance the project, a surplus will remain after paying for the capital, and this surplus will accrue to the firm's stockholders. Therefore, taking on a project whose IRR exceeds its cost of capital increases shareholders' wealth. iii) But, if the internal rate of return is less than the cost of capital, then taking on the project will impose a cost on current stockholders. If we look at the project Current, High-Tech and Broker we can find that for project Current, IRR is 6.9% whereas the cost of capital is 9.7%, for project High-Tech IRR is 64.7% and the cost of capital is 9.17% and for project broker IRR is 11% and cost of capital is 9.17%. Hence we can decide that project high-tech is more valuable for Guillermo's Furniture Store (Brigham, 2004) (Fabozzi, 2003) (Reilly & Brown, 2006). Works Cited Brigham, E. F. , & Houston, J. F. (2004). *Fundamental of Financial Management*. South Western: Thomson. Brown, & Reilly. (2006). *Investment Analysis and Portfolio Management*. Thomson ONE - Business School. Fabozzi, F. J. (2003). *Financial management and analysis*. New Jersey: John Willy and sons.