

Finance Assignment 3

Suraj Shiwal

June 30, 2018

User Defined Function(UDF) for capital budgeting techniques like

Pay back period without discounting

```
PayBackPeriod = function(initial_investment,annual_cashflows){
  Pay_back_period = initial_investment/annual_cashflows
  return(Pay_back_period)
}

PayBackPeriod(80000,1000000)
```

```
## [1] 0.08
```

Payback period with discounting

```
PBPD <- function(initial_capital,cashflow,discount_rate){
  return(log(1/(1-((initial_capital*discount_rate)/cashflow)))/log(1+discount_rate))
}

discount_payback = PBPD(1674000,700000,0.11)
cat("The Discounted Payback Period is:",discount_payback, "years")
```

```
## The Discounted Payback Period is: 2.924922 years
```

Net Present Value

```
NPV <- function(initial_capital,cf,n,int_rate){
  npv = -initial_capital + sum(cf/((1+int_rate)^n))
}

n = 3
cf = c(1000000,400000,800000)
net_present_value = NPV(500000,cf,1:n,0.10)
cat("Net Present Value is:",net_present_value,"Rs.")
```

```
## Net Present Value is: 1340721 Rs.
```

Internal Rate of Return.

```
#Here,  
#A <- rate in percentage where NPV is positive  
#B <- rate in percentage where NPV is negative and closest to zero  
#C <- NPV for rate A  
#D <- NPV for rate B  
IRR = function(A,B,C,D){  
  irr = A+(C/(C-D))*(B-A)  
  return(irr)  
}  
IRR(35,45,1375,-133)
```

```
## [1] 44.11804
```