

FINANCIAL MANAGEMENT PART -1

SUMMITTED BY: BHAVIN KUMAR PATEL

STUDENT ID: 1705987

GUIDED BY: PROF. ISAIAH OINO

UNIVERSITY OF WALES TRINITY SAINT DAVID.
LONDON CAMPUS

Financial Analysis & comparison

Executive Summary:

Financial decision making is the process that refers to a step by step process regarding how the surplus money can be invested for the purpose of generation of the maximum return. First and foremost step in the process of decision making is the identification of the decision to be made, after that relevant information has to be gathered for pursuing the decisions making process. Then the possible alternatives are to be identified. After the identification of the possible alternatives the most appropriate techniques are to be followed for judging the shortlisted alternatives and then one of the alternatives has to be chosen on the basis of the required justification .Once the most justified alternative has been chosen , then action will be taken with respect to the chosen alternative (Porcelli and Delgado, 2009). After choosing the most appropriate alternative, the decision taken must be reviewed. In the present case scenario the investor has taken the decision of investing the surplus money in the stocks of the company for earning some additional income. On the basis of the decision taken, he has done some research for gathering information with respect to the segment to be chosen and the companies from that segment to be chosen for investment. Finally he has narrowed down to the two alternative companies namely William Hill PLc and the Paddy power Betrfair Plc for the purpose of investment in the stocks of those companies. He has gone through the annual reports of the company, but being a lay man he is finding it difficult to decide which alternative will be chosen for the purpose of invest and for the purpose of making this crucial decision he is looking advice from an investment advisor. The investment advisor has used the tools of ratio analysis to identify the different financial aspects of the two companies in a very comprehensive manner in front of the investor so that he can be easily convinced to choose one of the alternatives to fulfil his investment requirements. Once the investor has narrowed down to one of the alternatives then he is ,going to decide the proportion of the investments that will be invested between the stocks of the two companies on the basis of the risk taking capabilities of the investors (Cesarini *et al.*,2010)

Table of Contents

Introduction:.....	4
Usefulness of tools of ratio analysis:	4
profitability ratios (2015, 2016, 2017).....	5
Investing ratios (2015, 2016, 2017)	7
Liquidity ratios (2015, 2016, 2017)	8
Efficiency ratios (2015, 2016, 2017)	9
Capital structure ratios (2015, 2016, 2017)	10
Performance Trend Analysis:	10
Conclusion & Portfolio building Suggestions:	11
Reference:	13
Appendix:.....	15

Introduction:

The Investor MR. Tim Farrow is looking for some low risk stock investments in the companies of the licensee betting industry of UK and narrowed down to two major players of the industry namely William Hill PLC and the Paddy power Betfair Plc. Both of the chosen companies are listed in London Stock Exchange. The 2017 annual turnover of *William Hill PLC* was 1.7 billion pound where as that of Paddy power Betfair Plc was 1.8 billion pound. The Paddy power Betfair Plc is part of the FTSE 100 Index and William Hill PLC is part of the FTSE 250 Index. From the point of view of the investors it should be noted that the share holders of *William Hill PLC* has received a basic adjusted EPS by an amount of 27.6 pence or 0.28 pound and a DPS of 13.2 pence or 0.13 GBP in 2017(William Hill Plc, 2018)..On the other hand the investors of Paddy power Betfair Plc have earned basic adjusted earnings per share of 2.59 pound and a dividend per share of 2 pound. Thus both of the companies are quite attractive from the point of view of stock investing. But as mentioned above MR. Tim Farrow is a risk-averse investor and therefore without making a deeper analysis it is not possible for him to understand that which company is less risky for investment. In order to get the proper guidance regarding the risk aspect of the company Mr. Farrow is looking for expert advice of a financial analyst who is using the tools of ratio analysis for analysing the five years annual data of the two chosen companies namely William Hill PLC and the Paddy power Betfair Plc(William Hill Plc, 2018).

.

Usefulness of tools of ratio analysis:

The financial ratios represent significant relationships that exist between accounting figures of the balance sheet and the figures that are present in a profit and loss statement. The relationship between the accounting figures as visualised by the ratio analysis helps the analyst to identify the financial health of a business entity by pinpointing the different problem areas like the profit generation, cost control , debtor management , management of creditors, the debt and equity balance with in the capital employed of the company. Thus ratio analyses not only describe the financial health of the company but also visualise the underlying cause for which the company is performing efficiently and inefficiently. Due to this advantage of the ratio analysis the financial analysts use this tool also for the purpose of making effective measures so that the company can

perform as per the budgeted or benchmarked standard as decided by the industry average or by the company itself. Besides the tools of ratio analysis also enables intercompany comparison of same ratios and thus also helps the analysts to identify the company with better financial performance between the two (Martani and Khairurizka, 2009). Besides the tools of the ratio analysis also help the analysts to draw a successive picture of financial performance of a company over years. In this assignment the tools of ratio analysis has been used for describe and compare the financial health of the two chosen companies of William Hill PLC and the Paddy power Betrfair Plc for a period of 3 years 2015, 2016, 2017 so that the degree of risk and the performance quality can be compared with respect to the two companies and one of them will be given weightage over the other for fulfilling the objective of making low risk investment as per the requirement of the investor (Higgins, 2012).

Profitability ratios (2015, 2016, 2017)

Profitability is an important parameter to be judged in order to get an idea regarding the profit generation efficiency of the company.

Gross Profit Margin:

Looking at the gross profit margin ratio it can e seen that the gross profit margin of the two companies where more or less same and around 76% to 77% for the three years period of 2015, 2016, 2017. This indicates for the both the organizations William Hill PLC and the Paddy power Betrfair Plc are having similar efficiency in generating the gross profit from the total sales revenue earned by the companies (Gibson, 2011.).

Net Profit Margin:

Looking at the net profit margin ratio it can be seen that the performance of Paddy power Betrfair Plc was better than William Hill PLC in 2015 so far as net profit generation is concerned; as in 2015 Paddy power Betrfair Plc managed to save 14% of the sales revenue earned as the net profit but William Hill PLC only managed to save 12% of the sales revenue earned as the net profit. But over years in 2016 and 2017 the William Hill PLC has registered a better performance compared to Paddy power Betrfair Plc with net profit margins of 14%(2017) and 12%(2017) respectively.

ROA (Return On Asset ratio):

The ROA or the return on asset ratio which describes the portion of the money value of the asset that has been transformed in profit after tax was higher in case of Paddy Power Betfair PLC (0.26) compared to that of William Hill PLC (0.08) in 2015. But moving in to 2016 it can be seen that the performance of William Hill PLC has improved over Paddy Power Betfair PLC as in 2016 the ratios were 0.07 and 0.00 respectively. Thus in 2016 the William Hill PLC managed to transform 7% of the value of the asset employed in net-profit where as Paddy Power Betfair PLC failed to generate any net profit as in this year the company only earned net loss of (5.7) million GBP. But moving to 2017, it can be seen that Paddy Power Betfair PLC recovered their efficiency in the generation of return over asset and in 2017 the Paddy Power Betfair PLC managed to transform 4% of the asset value in the net profit where as in the same year William Hill PLC only managed to transform 1% of the value of the asset employed in net-profit.

ROE (Return On Equity):

The ROE or the return on Equity ratio describes the proportioned the monetary value of the equity investments that has been transformed in the net profit. So higher will be the ratio grater will be the performance of the organization. Looking at the calculated ratios of ROE it can be seen that i n 2015 Paddy Power Betfair PLC transformed around 213% of the monetary value of the equity invested in to net profit and that describes a high return earning efficiency with respect to the equity invested in Paddy Power Betfair PLC. in the same year William Hill PLC only managed to transform 16% of the value of the equity employed in net-profit. But in 2016 and 2017 the performance of William Hill PLC became stable and better with respect to ROE and in 2016 & 2017 the organization managed to transform 13% and 22% of the money value of equity in net profit. In 2016 & 2017 Paddy Power Betfair PLC registered an unstable and low performance with respect to return earned on equity(loss in 2015 & 5% ROE in 2017)(Fahlenbrach *et al.*,2012)

Investing ratios (2015, 2016, 2017)

The following investing ratios are studied as they help to derive crucial information regarding the pattern or trend of dividend payment and the average earnings made by the share holders of the company.

P/E ratio:

Looking at the P/E ratio it can be seen that in 2015 the investors were ready to pay 311 pound for purchasing the shares of Paddy Power Betfair PLC and 1374 pound for purchasing the shares of William Hill PLC. In 2016, 2017 the investors were ready to pay 217 pound and 28 pound respectively for Paddy Power Betfair PLC but during the same period the investors were ready to pay 1499 pound and 1178 pound for buying the shares of the William Hill PLC.

Price to Sales ratio (P/S):

The Price to Sales ratio (P/S) defines that in 2015 for Paddy Power Betfair PLC the investors are ready to pay 42 pound for 1 unit of sales and in case of William Hill PLC the investors are ready to pay 164 pound for 1 unit of sales. In 2016 and 2017 for William Hill PLC the investors were offering 153 pound & 57 pound for 1 unit of sales and for the same years the investors were offering 0.8 pound & 3.8 pound for 1 unit of sales. This indicates that investors of the market are thinking that shares of William Hill PLC are worth of higher paying compared to Paddy Power Betfair PLC (Brigham and Houston, 2012).

Dividend Yield Ratio:

The dividend yield ratio describes the proportion of the earnings made on the common stock is distributed as dividend. In case of the William Hill PLC it can be seen that on an average the company has distributed 52% of the earnings on share as dividend during the period under study from 2015-2017. On the other hand in case of Paddy Power Betfair PLC it can be seen that on an average the company has distributed 64% of the earnings on share as dividend during the period under study from 2015-2017 (ignoring the non payment of dividend in 2015).

Dividend Payout Ratio:

The dividend payout ratio also describes the pattern of dividend payment of an organization as it describes the proportion of the net income that is distributed as dividend and the proportion that is kept aside for the purpose of reinvestment. So higher will be the ratio, greater will be the tendency of the organization to distribute the surplus income as dividend rather than using it for the purpose of reinvestment. The William Hill plc has distributed on an average 56% of the net income as dividend during the period of study (2015-2017), but Paddy Power Betfair PLC has distributed on an average 79% of the net income as dividend [ignoring the results of 2015 when the company faced an abrupt loss] during the period of study (2015-2017) (Kirkpatrick and Dahlquist, 2010.).

Liquidity ratios (2015, 2016, 2017)

The liquidity ratios describe the relative strength of the company in terms of the holding of the liquid cash that can be used for meeting debt burden, for the purpose of reinvestment that can be used for the expansion of the company and for dealing with the situations of unexpected cash requirements. So higher will be the ratios, greater will be the liquidity position of the company (Humpe and Macmillan, 2009).

Current Ratio:

The current ratio describes that on an average during the period of study (2015-2017) in case of William Hill plc the current asset holding of the company is capable to meet only 44% current liability holding of the company. On the other hand during the same period of study in case of Paddy Power Betfair PLC the current ratio states that the average current asset holding of the company is capable to meet 157% of the current liability holding of the company.

Quick Ratio:

The Quick Ratio (Where the current asset only includes the quick assets that are either cash or readily convertible in cash) describes that in case of William Hill plc the average quick asset holding of the company is capable to meet only 41% current liability holding of the company and

in case of Paddy Power Belfair PLC the average quick asset holding of the company is capable to meet 124% current liability holding of the company (Kashyap *et al.*,2010).

Efficiency ratios (2015, 2016, 2017)

The efficiency ratios describe the different aspects of the degrees of the management efficiency with respect to the organization. In the present scenario the main objective is to identify the efficiency of the company in generating the earnings and cash that will reach to the stock investors of the company either in the forms of dividend or earnings on share. So higher will be the earnings grater will be the possibility of the share holders to earn dividend or return on equity. The majority of the cash generation capacity of the company depends upon how they are managing the debtors and creditors of the company; and that is why the ratios of debtor days and creditors' days are being analysed here (Ertuğrul and Karakaşoğlu, 2009).

Debtor days:

The Debtor days describes that on an average the William hill plc is collecting the trade receivables from the debtors within 15 days during the period of the study(2015-2017) and Paddy Power Belfair PLC is collecting the trade receivables from the debtors within 11 days during the period of the study(2015-2017).

Creditor Days:

The creditor days describes that on an average the William hill plc is delivering the trade payments to the creditors within 351 days during the period of the study (2015-2017) and Paddy Power Belfair PLC is delivering the trade payments to the creditors within 330 days during the period of the study (2015-2017)

Length of cash generation cycle:

The average Length of cash generation cycle (difference between the creditor's days and debtor day) is 336 in case of William hill plc and in case of Paddy Power Belfair PLC 319 during the period of study (2015-2017).

Capital structure ratios (2015, 2016, 2017)

The capital structure ratio describes the proportion of the debt and equity in the total capital of the company. If the proportion of debt is quite higher in the company then it is expected that the company is bearing a high debt burden in the form of interest payment. On the other hand if the proportion of equity is quite high in the company then it describes that the company has a high obligation to deliver good return on equity both in the form of dividend payment and stock appreciation (Brinckmann *et al.*, 2010).

Debt-to-Equity Ratio:

The average debt to equity ratio in case of William Hill plc is 1.05 and that of Paddy Power Betfair PLC is 2.44 for the period under study (2015-2017). Thus the proportion of debt held (in comparison to the value of the share holders equity) is greater in case of Paddy Power Betfair PLC in comparison to William Hill plc.

Performance Trend Analysis:

Looking at the three years performance of the two organizations in terms of the profitability ratios it can be seen that there is not much difference of efficiency in terms of gross and net profit margin generation as proportion of sales. But Paddy Power Betfair PLC is better in generating return over asset and William Hill PLC is better in generating good return over the equity of the share holders.

The P/E & The P/S ratio describes that the market prospect of William Hill PLC is much better than that of Paddy Power Betfair PLC. The dividend Yield Ratio and the dividend payout ratio describes that on an average Paddy Power Betfair PLC is distributed higher portion of stock earnings among the holders of the common stock as dividend during the study period of 2015-2017. Therefore the share holders of the Paddy Power Betfair PLC are more capable to earn secured return in the form of dividend. Whereas the stock holders of the William Hill PLC are more capable to earn from the appreciation of the price of the stock as the market prospect of the stocks of William Hill PLC is better than that of Paddy Power Betfair PLC but earnings from the appreciation of the price of the stock is a kind of risky earnings as it largely depends upon the stock price volatility (Gertler and Kiyotaki, 2010)

The liquidity ratios that is the current and the quick ratios describes that the Paddy Power Betfair PLC liquid position is stronger than William Hill PLC as the average liquid asset holding of Paddy Power Betfair is higher than William Hill PLC(Davies and Crawford, 2011).

The average cash generation cycle of William Hill PLC is longer by 17 days than that of Paddy Power Betfair PLC which indicates that William Hill PLC is more efficient to hold the liquid cash by quick collection of receivables from the debtors and managing in deriving longer credit periods from the trade creditors of the company. So in brief it can be said that the cash generation efficiency of William Hill PLC is higher than Paddy Power Betfair PLC(McLean et al.,2010)

The capital structure ratio describes that the proportion of debt held out of the total capital employed is greater in case of the Paddy Power Betfair PLC and this organization is more inclined towards the derivation of the financial leverage and the expectation of the companies with respect to the appreciation in the price of stock is lower in case of the Paddy Power Betfair PLC and that is why to satisfy the share holders the company is more inclined towards delivering secured income to the share holders of the company in the form of dividend payment.

Conclusion & Portfolio building Suggestions:

From the above discussion it can be seen that the market prospect of the stocks of William Hill PLC is strong enough as the investors are ready to pay higher prices for purchasing those stocks but Paddy Power Betfair PLC has stronger trend of distributing the retained earnings as dividend among the holders of the common stock which is the most secured form of stock return. Therefore being a risk-averse investor MR. Tim Farrow should give preference to Paddy Power Betfair PLC as it gives a greater possibility of delivering secured return (Brynjolfsson et al., 2011)

Again the debt burden of Paddy Power Betfair PLC is higher than William Hill PLC , but the strong and better liquidity position of Paddy Power Betfair PLC compared to William Hill PLC justifies the selection of the Paddy Power Betfair PLC over William Hill PLC as the strong liquidity position will help Paddy Power Betfair PLC to fight with any negative situation while maintaining the secured return for the investors.

So MR Tim Farrow who is focused on risk minimization along with the earnings of secured return is recommended to choose any one of the following suggestions:

The portfolio investment should be made only in the stocks of Paddy Power Betfair PLC

80% of the portfolio investment should be made only in the stocks of Paddy Power Betfair PLC and rest in the stocks of William Hill PLC, provided MR Tim Farrow is ready to take little risk for earning good returns from the appreciation in the price of stocks of William Hill PLC

Reference:

Brigham, E.F. and Houston, J.F., 2012. Fundamentals of financial management. Cengage Learning.

Brinckmann, J., Grichnik, D. and Kapsa, D., 2010. Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning–performance relationship in small firms. *Journal of business venturing*, 25(1), pp.24-40.

Brynjolfsson, E., Hitt, L.M. and Kim, H.H., 2011. Strength in numbers: How does data-driven decisionmaking affect firm performance?.

Cesarini, D., Johannesson, M., Lichtenstein, P., Sandewall, Ö. and Wallace, B., 2010. Genetic variation in financial decision-making. *The Journal of Finance*, 65(5), pp.1725-1754.

Davies, T. and Crawford, I., 2011. Business accounting and finance. Pearson.

Ertuğrul, İ. and Karakaşoğlu, N., 2009. Performance evaluation of Turkish cement firms with fuzzy analytic hierarchy process and TOPSIS methods. *Expert Systems with Applications*, 36(1), pp.702-715.

Fahlenbrach, R., Prilmeier, R. and Stulz, R.M., 2012. This time is the same: Using bank performance in 1998 to explain bank performance during the recent financial crisis. *The Journal of Finance*, 67(6), pp.2139-2185.

Fayers, P.M. and Machin, D., 2013. Quality of life: the assessment, analysis and interpretation of patient-reported outcomes. John Wiley & Sons.

Gertler, M. and Kiyotaki, N., 2010. Financial intermediation and credit policy in business cycle analysis. In *Handbook of monetary economics* (Vol. 3, pp. 547-599). Elsevier.

Gibson, C.H., 2011. Financial reporting and analysis. South-Western Cengage Learning.

Higgins, R.C., 2012. Analysis for financial management. McGraw-Hill/Irwin.

Humpe, A. and Macmillan, P., 2009. Can macroeconomic variables explain long-term stock market movements? A comparison of the US and Japan. *Applied Financial Economics*, 19(2), pp.111-119.

Kashyap, A.K., Stein, J.C. and Hanson, S., 2010. An analysis of the impact of 'substantially heightened' capital requirements on large financial institutions. Booth School of Business, University of Chicago, mimeo, 2.

Kirkpatrick II, C.D. and Dahlquist, J.A., 2010. Technical analysis: the complete resource for financial market technicians. FT press.

Martani, D. and Khairurizka, R., 2009. The effect of financial ratios, firm size, and cash flow from operating activities in the interim report to the stock return. *Chinese Business Review*, 8(6), p.44.

McLean, R.I. and Anderson, R.J., TVC International Inc, 2010. Data processing system for analysis of financial and non-financial value creation and value realization performance of a business enterprise for provisioning of real-time assurance reports. U.S. Patent 7,756,732.

Paddypowerbetfair.com. (2017). [online] Available at: <https://www.paddypowerbetfair.com/~media/Files/P/Paddy-Power-Betfair/documents/annual-report-2017-v1.pdf> [Accessed 17 Apr. 2018].

Porcelli, A.J. and Delgado, M.R., 2009. Acute stress modulates risk taking in financial decision making. *Psychological Science*, 20(3), pp.278-283.

William Hill Plc. (2018). William Hill Today. [online] Available at: <https://www.williamhillplc.com/about/william-hill-today/> [Accessed 17 Apr. 2018].

Appendix:

Profitability ratios:

	William hill plc	Paddy Power Betfair PLC
	Profitability Ratios	
	Gross Profit margin[Gross Profit/Sales]	
2015	76%	76%
2016	76%	77%
2017	76%	77%

	William hill plc	Paddy Power Betfair PLC
	Profitability Ratios	
	Net Profit margin [Net Profit/Sales]	
2015	12%	14%
2016	10%	0%
2017	14%	12%

	William hill plc	Paddy Power Betfair PLC
	Profitability Ratios	
	ROA[PAT/Total Asset]	
2015	0.08	0.26
2016	0.07	0.00
2017	0.01	0.04

|--|--|--|

	William hill plc	Paddy Power Betfair PLC
	Profitability Ratios	
	ROE[PAT or net income/Share holders equity]	
2015	16%	213%
2016	13%	(-0.00132)
2017	22%	5%

Investor ratios:

	William hill plc	Paddy Power Betfair PLC
	Investors Ratio	
	P/E [Price per share/EPS]	
2015	1374	311
2016	1499	217
2017	1178	28

	William hill plc	Paddy Power Betfair PLC
	Investors Ratio	
	Price-to-Sales Ratio[Price per Share / Annual Sales Per Share]	
2015	164	42
2016	153.8	0.8
2017	57.3	3.4

	William hill plc	Paddy Power Betfair PLC
	Investors Ratio	
	Dividend yield[dividend per share / Earnings per share](£)	
2015	0.50	0.00
2016	0.59	0.52
2017	0.46	0.77

	William hill plc	Paddy Power Betfair PLC
	Investors Ratio	
	Dividend pay-out ratio[Dividend/net income or profit]	
2015	57%	81%
2016	66%	-3140%
2017	46%	78%

Liquidity Ratios:

	William hill plc	Paddy Power Betfair PLC
	Liquidity Ratio	
	Current Ratio[current asset/Current Liability	
2015	0.52	0.82
2016	0.71	0.99
2017	0.08	2.88

	William hill plc	Paddy Power Betfair PLC
	Liquidity Ratio	
	Quick Ratio[Quick asset(current asset-asests that can not be readily converted in to cash)/Current Liability]	
2015	0.45	0.53
2016	0.70	0.82
2017	0.08	2.38

Efficiency Ratios:

	William hill plc	Paddy Power Betfair PLC
	Efficiency Ratios	
	Debtor days[(Trade debtots/sales)*365]	
2015	13	10
2016	17	13
2017	16	10

	William hill plc	Paddy Power Betfair PLC
	Efficiency Ratios	
	Creditor days([Accounts payable/cost of sales]*365)	
2015	315	351
2016	354	338
2017	385	301

	William hill plc	Paddy Power Betfair PLC
	Efficiency Ratios	
	Length of cost generation cycle	
2015	302	341
2016	337	324

2017	369	291
------	-----	-----

Capital structure ratios:

	William hill plc	Paddy Power Betfair PLC
	Capital structure ratios	
	Debt-to-Equity Ratio = Total Liabilities / Total Shareholder Equity	
2015	0.930	7.049
2016	0.993	0.156
2017	1.223	0.121

Investment appraisal techniques

PART - 2

SUBMITTED BY : BHAVIN KUMAR PATEL

GUIDED BY: PROF. ISAIAH OINO

Table of Contents

a) Calculate the PBP and NPV	23
b) ARR calculation	31
c) Evaluation of the outcomes	34
d) Benefits and shortcomings of PBP and NPV	36
e) Non financial factors	37
References.....	38

a) Calculate the PBP and NPV

Project-A

	Project-A	
		£
Initial Investment		160000
Life span		6
Residual Value		20000
Rate of Depreciation		17%
Annual depreciation value		23333

Project-B

	Project-B	
		£
Initial Investment		220000
Life span		6
Residual Value		10000
Rate of Depreciation		17%
Annual depreciation value		35000

Calculation of NPV

Project A

Schedule of Cash Flows Discounted at 7%				
Year	Outflows	Inflows	Net	Discounted
			Cash Flow	Cash Flow
0	£ 160,000.00		-£ 160,000.00	-£ 160,000.00
1		£ 45,000.00	£ 45,000.00	£ 42,056.07
2		£ 45,000.00	£ 45,000.00	£ 39,304.74
3		£ 45,000.00	£ 45,000.00	£ 36,733.40
4		£ 45,000.00	£ 45,000.00	£ 34,330.28
5		£ 45,000.00	£ 45,000.00	£ 32,084.38
6		£ 45,000.00	£ 45,000.00	£ 29,985.40
Totals:	£ 160,000.00	£ 270,000.00	£ 110,000.00	£ 54,494.28

Schedule of Cash Flows Discounted at 7%(after depreciation values)						
Year	Outflows	investment	Depreciation values	Inflows	Net	Discounted
					Cash Flow	Cash Flow
0	£ 160,000.00				-£ 160,000.00	-£ 160,000.00

1		£ 45,000.00	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 20,249.53
2		£ 45,000.00	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 18,924.80
3		£ 45,000.00	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 17,686.73
4		£ 45,000.00	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 16,529.65
5		£ 45,000.00	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 15,448.27
6		£ 45,000.00	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 14,437.64
Totals:	£ 160,000.00			£ 130,002.00	-£ 29,998.00	-£ 56,723.39

Project B

Year	Outflows	Inflows	Net	Discounted
			Cash Flow	Cash Flow
0	£ 220,000.00		-£ 220,000.00	-£ 220,000.00
1		£ 60,000.00	£ 60,000.00	£ 56,074.77
2		£ 60,000.00	£ 60,000.00	£ 52,406.32
3		£ 60,000.00	£ 60,000.00	£ 48,977.87
4		£ 60,000.00	£ 60,000.00	£ 45,773.71
5		£	£	£

		60,000.00	60,000.00	42,779.17
6		£ 60,000.00	£ 60,000.00	£ 39,980.53
Totals:	£ 220,000.00	£ 360,000.00	£ 140,000.00	£ 65,992.38

Schedule of Cash Flows Discounted at 7%(after depreciation values)						
Year	Outflows	investment	Depreciation values	Inflows	Net	Discounted
					Cash Flow	Cash Flow
0	\$220,000.00				(£ 220,000.00)	(£ 220,000.00)
1		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 23,364.49
2		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 21,835.97
3		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 20,407.45
4		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 19,072.38
5		£	£	£	£	£

		60,000.00	35,000.00	25,000.00	25,000.00	17,824.65
6		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 16,658.56
Totals:	£ 220,000.00			£ 150,000.00	-£ 70,000.00	-£ 100,836.5 1

PBP calculation

Project A

Schedule of Cash Flows Discounted at 7%					
Year	Outflows	Inflows	Net	Discounted	commutative
			Cash Flow	Cash Flow	cash flow
0	£ 160,000.00		-£ 160,000.00	-£ 160,000.00	-£ 160,000.00
1		£ 45,000.00	£ 45,000.00	£ 42,056.07	-£ 115,000.00
2		£ 45,000.00	£ 45,000.00	£ 39,304.74	-£ 70,000.00
3		£ 45,000.00	£ 45,000.00	£ 36,733.40	-£ 25,000.00
4		£ 45,000.00	£ 45,000.00	£ 34,330.28	£ 20,000.00
5		£ 45,000.00	£ 45,000.00	£ 32,084.38	£ 65,000.00
6		£ 45,000.00	£ 45,000.00	£ 29,985.40	£ 110,000.00
Totals:	£	£	£	£	

	160,000.00	270,000.00	110,000.00	54,494.28	
PBP	3.5				

Schedule of Cash Flows Discounted at 7%(after depreciation values)							
Year	Outflows	investme nt	Depreciation values	Inflows	Net	Discounte d	commutati ve
					Cash Flow	Cash Flow	cash flow
0	£ 160,000. 00				-£ 160,000.0 0	-£ 160,000.0 0	-£ 160,000.0 0
1		£ 45,000.0 0	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 20,249.53	-£ 138,333.0 0
2		£ 45,000.0 0	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 18,924.80	-£ 116,666.0 0
3		£ 45,000.0 0	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 17,686.73	-£ 94,999.00
4		£ 45,000.0 0	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 16,529.65	-£ 73,332.00
5		£ 45,000.0 0	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 15,448.27	-£ 51,665.00
6		£ 45,000.0 0	£ 23,333.00	£ 21,667.00	£ 21,667.00	£ 14,437.64	-£ 29,998.00
Total	£			£	-£	-£	

s:	160,000. 00			130,002.00	29,998.00	56,723.39	
PBP	7.385						

Project B

Schedule of Cash Flows Discounted at 7%					
Year	Outflows	Inflows	Net	Discounted	commutative
			Cash Flow	Cash Flow	cash flow
0	£ 220,000.00		-£ 220,000.00	-£ 220,000.00	-£ 220,000.00
1		£ 60,000.00	£ 60,000.00	£ 56,074.77	-£ 160,000.00
2		£ 60,000.00	£ 60,000.00	£ 52,406.32	-£ 100,000.00
3		£ 60,000.00	£ 60,000.00	£ 48,977.87	-£ 40,000.00
4		£ 60,000.00	£ 60,000.00	£ 45,773.71	£ 20,000.00
5		£ 60,000.00	£ 60,000.00	£ 42,779.17	£ 80,000.00
6		£ 60,000.00	£ 60,000.00	£ 39,980.53	£ 140,000.00
Totals:	£ 220,000.00	£ 360,000.00	£ 140,000.00	£ 65,992.38	

PBP	3.6				
-----	-----	--	--	--	--

Schedule of Cash Flows Discounted at 7%(after depreciation values)							
Year	Outflows	investment	Depreciation values	Inflows	Net	Discounted	commutative
					Cash Flow	Cash Flow	cash flow
0	£ 220,000.00				-£ 220,000.00	-£ 220,000.00	-£ 220,000.00
1		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 23,364.49	-£ 195,000.00
2		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 21,835.97	-£ 170,000.00
3		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 20,407.45	-£ 145,000.00
4		£ 60,000.00	£ 35,000.00	£ 25,000.00	£ 25,000.00	£ 19,072.3	-£ 120,000.00

		0			0	8	0
5		£ 60,000.0 0	£ 35,000.00	£ 25,000.00	£ 25,000.0 0	£ 17,824.6 5	-£ 95,000.00
6		£ 60,000.0 0	£ 35,000.00	£ 25,000.00	£ 25,000.0 0	£ 16,658.5 6	-£ 70,000.00
Totals:	£ 220,000. 00			£ 150,000.0 0	-£ 70,000.0 0	-£ 100,836. 51	
PBP	8.8						

b) ARR calculation

With depreciation

Year	Outflows	investment	Depreciation values	Inflows
0	£ 160,000.00			
1		£ 45,000.00	£ 23,333.00	£ 21,667.00
2		£ 45,000.00	£ 23,333.00	£ 21,667.00
3		£ 45,000.00	£ 23,333.00	£ 21,667.00
4		£ 45,000.00	£ 23,333.00	£ 21,667.00
5		£ 45,000.00	£ 23,333.00	£ 21,667.00
6		£ 45,000.00	£	£ 21,667.00

			23,333.00	
Totals:	£ 160,000.00			£ 130,002.00

Annual Depreciation = (Initial Investment – Scrap Value) ÷ Useful Life in Years

Residual values	20000
Annual Depreciation	23333.33333
Average Accounting Income	-£ 1,666.33
ARR	-1%

Without depreciation

ARR calculation of project A(without depreciation)
With an initial investment of \$160,000.00 using the 6 cash flows you entered, calculate the Accounting Rate of Return (Average Return) Calculate the sum of our returns: $\Sigma \text{ Returns} = 45000 + 45000 + 45000 + 45000 + 45000 + 45000$ $\Sigma \text{ Returns} = \$270,000.00$ Calculate Average Returns: $\text{Average Returns} = \Sigma \text{ Returns} / \text{Number of Returns}$ $\text{Average Returns} = \$270,000.00 / 6$ $\text{Average Returns} = \$45,000.00$ $\text{ARR} = \text{Average Returns} / \text{Initial Investment}$ $\text{ARR} = \$45,000.00 / \$160,000.00$ $\text{ARR} = 0.2813$ As a percentage, ARR = 28.13%

Project B

Schedule of Cash Flows Discounted at 7%(after depreciation values)				
Year	Outflows	investment	Depreciation values	Inflows
0	\$220,000.00			
1		£ 60,000.00	£ 35,000.00	£ 25,000.00
2		£ 60,000.00	£ 35,000.00	£ 25,000.00
3		£ 60,000.00	£ 35,000.00	£ 25,000.00
4		£ 60,000.00	£ 35,000.00	£ 25,000.00
5		£ 60,000.00	£ 35,000.00	£ 25,000.00
6		£ 60,000.00	£ 35,000.00	£ 25,000.00
Totals:	£ 220,000.00			£ 150,000.00

Residual values	20000
Annual Depreciation	33333.33333
Average Accounting Income	-£ 8,333.33
ARR	-4%

ARR calculation of project B(without depreciation)
With an initial investment of \$220,000.00 using the 6 cash flows you entered, calculate the Accounting Rate of Return (Average Return) Calculate the sum of our returns: $\Sigma \text{Returns} = 60000 + 60000 + 60000 + 60000 + 60000 + 60000$ $\Sigma \text{Returns} = \$360,000.00$ Calculate Average Returns: $\text{Average Returns} = \Sigma \text{Returns} / \text{Number of Returns}$ $\text{Average Returns} = \$360,000.00 / 6$ $\text{Average Returns} = \$60,000.00$ Calculate Average Rate of Return (ARR): $\text{ARR} = \text{Average Returns} / \text{Initial Investment}$ $\text{ARR} = \$60,000.00 / \$220,000.00$ $\text{ARR} = 0.2727$ As a percentage, $\text{ARR} = 27.27\%$

c) Evaluation of the outcomes

Selection of the project on basis of net present values

As studies conducted by the Dalton, (2013), said that the main objective of the an organization is to accomplish higher revenues and more profits and this can be obtained if the management of an organization select the viable or reliable project from the. According to the Feuz, and Ritten, (2017), the project is benefits for the organization if net present values contain positive and higher values as compared to the other project. From the computation it can be obtained that the values of net present of project A is £54494 whereas project B net present values is £65992(without using depreciation). Moreover, if depreciation is involves then net present values of project A is £-56723 and project B is £-100836. Therefore from the findings it can be said that the organization needs to preference project B as compared to project A(if they not considered the depreciation values). But if a net present value calculation has been done on the basis of deprecation then both projects involves negative and both are not reliable for an organization.

Selection on the basis of PBP

PBP is mainly utilized by the management of an organization for purpose of findings how much time organization needs to require to recover the initial investment. The lower values of the payback period are considered better for an organization (Berk, and DeMarzo, 2013). From the calculation it can be seen that the payback period for project A is 3.5 years and project B is 3.6 years (without considered the depreciation values), then it is recommended that the organization needs to implement or select project A, as it helps them to recover initial investment in short time of period. But after considering the depreciation values it can be said that both projects are not viable or reliable for an organization (**project A=7.3 years, project B=8.8 years**) respectively.

Selection on the basis of ARR

According to the Brown, Beekes, and Verhoeven, (2011), said that the project which contain positive with higher values of ARR is better from an organization. From the calculation it can be seen that values of ARR of both projects i.e. project A is **28.13%** and project B is **27.27 %**(without considered the depreciation values) then it can be recommended that the organization needs to select project A, as it involves higher profits as compared to project B. While considering the depreciation values, then it can be said

that the organization need to neither select project A and nor select to project B as both involves negative values (**project A=-1% and project B=-4%**).

Therefore from the observation and findings it can be recommended that the organization Patel Mintro need to select project A as it involves higher profits. If, the management of an organization can considered the depreciation values then they need to refuse both project as it involves negative ARR, NPV and higher PBP.

d) Benefits and shortcomings of PBP and NPV

PBP

Benefits of Payback period

- Simplicity: - The concept of Payback period is ease to calculate and understand. Apart from that, payback period provide more important on liquidity from making an effective decision regarding the investment proposals (McClellan, and Barr, 2013).
- Risks focused: - Calculation of the payback period is emphasised on how quickly money can be come back from an investment, which is more vital to measure of risks. The project which involves shorter payback period involves less risk.

Disadvantage of payback period

- The main disadvantage of payback period is that it does not involve the time value of money.
- Calculation of payback period is mainly more focused on liquidity and ignores the profitability.

NPV

Benefits of net present values

- The main benefit of net present values is that it contains the time values of money in calculation.
- In calculation of net present values, both before cash flow and after cash flow over the life span of the project are considered (Estrada, 2011).

- Net present values give the high priorities of risks as well as profitability.

Disadvantage of net present values

- Calculation of the net present values cannot provide the accurate decision if the money of investment of mutually exclusive project is not same. Moreover when the project has not equal life then it may not provide the correct decision.
- Moreover the net present values are not useful for comparing different project of different size.
- A net present value is more complicated and not easy to calculate and understand.

e) Non financial factors

The availability of human resources, impact of investment over employee's motivation and customer's satisfaction are the main non financial factors that are considered by the organization in regards of project appraisal.

Customer's satisfaction is the main factors for an origination, therefore while investing in any project; the business must needs to emphasize on the aspect on how much client or consumer satisfaction can be generated from the initial investment of the project (Berk, and DeMarzo, 2013). Moreover, if the investment of the project enhances the high customer satisfaction then performance of sales is improved and helps the organization to increase profits in better manner.

While selecting or investing in the project, organization must need to ensure that **sufficient human resources** are available. If the manpower is not available, then the performance of the project is negatively hampered.

Staffs motivation also considered one of the main factors of non financial factors and it helps the organization to increase performance and sales in positive manner. For example, if an organization is able to satisfy its staffs in successful manner then the performance of the sales is increased effectively. Therefore it can be said that organization needs to emphasize on the improvement of the staffs motivation at workplace.

References

Bennouna, K., Meredith, G.G. and Marchant, T., (2010). Improved capital budgeting decision making: evidence from Canada. *Management decision*, 48(2), pp.225-247.

Berk, J. and DeMarzo, P. (2013). *Corporate finance*. 1st ed.

Brown, P., Beekes, W. and Verhoeven, P., (2011). Corporate governance, accounting and finance: A review. *Accounting & finance*, 51(1), pp.96-172.

Carmichael, D.G., 2011. An alternative approach to capital investment appraisal. *The Engineering Economist*, 56(2), pp.123-139.

Dalton, H. (2013). *Principles of Public Finance*. 1st ed. Hoboken: Taylor and Francis.

Estrada, J. (2011). NPV and IRR. In *The Essential Financial Toolkit* (pp. 116-135). Palgrave Macmillan UK.

Feuz, B. and Ritten, J., 2017. Net Present Value: NPV. Agricultural Experiment Station, University of Wyoming.

Harrison, F. and Lock, D., 2017. Advanced project management: a structured approach. Routledge.

Langdon, K. (2002). *Investment appraisal*. Oxford, England: Capstone Pub.

McClellan, G. and Barr, M. (2013). *Budgets and financial management in higher education*. 1st ed. San Francisco, Calif.: Jossey-Bass

Watt, D.J., Kayis, B. and Willey, K., 2009. Identifying key factors in the evaluation of tenders for projects and services. *International Journal of Project Management*, 27(3), pp.250-260.