

Financial Management

by Stacey Waller

Submission date: 23-Jul-2023 09:05PM (UTC+0100)

Submission ID: 210576850

File name: 20364_Stacey_Waller_Financial_Management_504372_506080548.docx (128.91K)

Word count: 5412

Character count: 33979

University of Wales Trinity Saint David

Financial Management

MBA LCMB 7002

Stacey Waller

1911557

Lecturer

Khaza Ahmed

Contents

INTRODUCTION	5
HISTORY OF TUI AIRLINES	6
TUI MARKET POSITION	6
CHANGE IN POSITION WITHIN THE TUI GROUP	6
TUI BUSINESS MODEL	7
TUI COMPETITORS	7
TUI PROFITABILITY RATIO	8
Gross Profit Margin	8
36 RETURN ON EQUITY (ROE)	9
GROSS PROFIT MARGIN NET PROFIT MARGIN 36 RETURN ON EQUITY (ROE):	10
GROSS PROFIT MARGIN COMPARISON	10
NET PROFIT MARGIN COMPARISON	10
RETURN ON EQUITY (ROE)	11
CURRENT RATIO:	11
QUICK RATIO:	12
COMPARISON VIRGIN ATLANTIC LIQUIDITY RATIO WORKING CAPITAL RATIO	12
EFFICIENCY RATIOS	13
57 RECEIVABLES COLLECTION PERIOD:	14
INVENTORY TURNOVER PERIOD:	14
DEBT to EQUITY RATIO	15
DEBT to DEBT = EQUITY RATIO:	16
INTEREST COVER:	16
OVERVIEW OF INVESTMENT APPRAISAL METHODS	17
OVERVIEW OF INVESTMENT APPRAISAL METHODS (ARR)	17
OVERVIEW OF INVESTMENT APPRAISAL METHODS (NPV)	18
OVERVIEW OF INVESTMENT APPRAISAL METHODS (IRR)	19
OVERVIEW OF EACH METHOD STRENGTHS, LIMITATIONS & THEIR EFFECTIVENES (ARR)	19
OVERVIEW OF EACH METHOD STRENGTHS, LIMITATIONS & THEIR EFFECTIVENES (NPV)	19
OVERVIEW OF EACH METHOD STRENGTHS, LIMITATIONS & THEIR EFFECTIVENES (IRR)	20
THEORETICAL CONCEPTS & NUMERICAL EXAMPLES	20

INTRODUCTION

The previous five years' worth of financial statements from TUI AG are being examined for this economic management report, which will also examine profitability ratios, gross profit margins, net profit margins, and return on equity. Current ratio, quick ratio, and liquidity ratio/working capital ratio will all be examined in the report. TUI AG's capital structure ratio, which includes the investment ratio, the debt-to-equity ratio, and the debt to debt = equity ratio covering interest cover Looking at its market share within its industry and the P/E ratio of market price per share/earnings per share.

In order to determine if TUI AG is operating at its full potential in comparison to VA, the analysis will also compare Virgin Atlantic to TUI AG.

The report will discuss several investment evaluation methods as well as their advantages, disadvantages, and theoretical notions and examples using numbers.

HISTORY OF TUI AIRLINES

According to **TUI (2023)** TUI AG and TUI Travel, market-leading travel organization, hotel rooms, and ship organizations with a long history spanning over forty years in the business, are leaders in the field. TUI AG and TUI Travel PLC, two companies that are enthusiastic about what they do, have worked collaboratively since TUI Travel was founded in 2007.

The firm we now know as TUI AG, which had previously operated as Preussag AG for over seventy years, entered the tourist sector in 1997 by purchasing Hapag-Lloyd, which was among Germany's top travel agencies. The corporation continued to make tourism purchases as it began to leave its industrial industries behind. One of the top travel companies in the world was established by TUI AG through the acquisition of some of the largest brands in European travel, including Thomson, Fritidsresor, Nouvelles Frontières, and shares in hotel companies RIU and Magic Life **TUI, (2023)**.

TUI MARKET POSITION

According to **TUI, (2023)** one of the top travel organizations on the globe is TUI. Leading tourism company, having one thousand two hundred travel agents, top portals on the internet, five airline companies comprising approximately 130 aero planes, more than Four hundred hotels, Sixteen cruise ships, and several inbound agents are all part of the Group's diverse collection, which spans all the world's top tourist locations.

The complete travelers value chain is covered underneath a single roof. We can offer the 21 million consumers an unrivalled vacation getaway across one-hundred-eighty locations thanks to this integrated offering. The company culture places a strong emphasis on our worldwide responsibilities for social, economic, and environmental sustainability. A little over 20 years of dedication to sustainable travel are evidence of this. With 60,000 employees, the TUI Group reported a fiscal year 2022 turnover of €16.5 billion and an operating profit of €409 million. The FTSE 250 index, the Frankfurt Stock Exchange's Quotation Board of the Open Market, and the Hanover Stock Exchange's regulated Market all list shares of the TUI Group **TUI, (2023)**.

CHANGE IN POSITION WITHIN THE TUI GROUP

TUI Group in the last five years have seen its executive broad personal change their position within the TUI Group.

According to **TUI, (2023)** Since October 1, 2022, Sebastian Ebel has served as CEO of the TUI Group. He has served as the Group's Chief Financial Officer from 2021 before that. From 2014

to 2020, Sebastian Ebel served as a member of the Executive Board and oversaw the growth sectors Destination Experiences, Hotels & Resorts, and Cruises.

These sectors included the businesses Robinson, TUI Magic Life, and TUI Musement as well as TUI shareholdings like RIU, Atlantica Hotels, TUI Cruises, and Hapag-Lloyd Cruises. He also served as the chairperson of TUI Deutschland's executive board from 2015 to 2017, which comprises the tour operators in Germany, Austria, Switzerland, and Poland TUI, (2023).

TUI SERVICES

Hotels within the TUI brands, such as TUI Blue, are hand-selected by TUI group specialists. The beach getaways from TUI magic Life, Robinson, RIU, and TUI Suneo are all value priced. TUI also offers holidays to lakes and mountains. If skiing is a customer's preference, TUI offers Crystal Ski Holidays to accommodate that. To make choosing hotels for the consumer simple, TUI has created collections of locations such A La Carte, Platinum, and tiny and friendly. Customers may rest assured that if TUI were to go out of business, they would not be left stranded in a foreign location because TUI is ABTA and ATOL protected TUI, (2023).

TUI BUSINESS MODEL

The largest travel company in the world is TUI. It is an integrated company that serves customers during their whole vacation adventure.

According to TUI AG, (2023) through ideas and reserving via the trip process to arrival at the location, we provide the whole client experience. Our personal accommodation and cruiser brands, external committed and non-committed lodging, along with location amenities like transportation and adventures, help us to fulfil this. As a result, we distinguish ourselves from competitors that focus just on components since we can improve the consumer experience throughout the trip.

The interconnected model enables us to maximize client numbers for the company's assets while harnessing the distribution strength of the company source markets. By providing unique and well-regulated products, we simultaneously increase interest within the source marketplaces and lower entry barriers. So, using our integrated strategy, we optimize profits while reducing risk TUI, (2023).

TUI COMPETITORS

According to global data (2023) TUI AG four main competitive Carnival Corporation & Plc based in USA, with 85,000 employees. Hilton World Holdings Inc, which is also based in the USA, has

159,000 employees. Accor SA which has 186,084 and is based in France and NH Hotels Group SA a Spanish travel provide have a little over 10,000 employees. Seem to be TUI main competitor. Even with TUI main competitors having more employees than TUI, TUI is still a leading brand in the holiday sector.

TUI PROFITABILITY RATIO

TUI AG Financial Data (in Euro millions)

YEAR	TOTAL REVENUE	NET PROFIT	SHAREHOLDER'S EQUITY	SALES
2018	19,523.90	755.50	1,502,946	122,665
2019	18,928.10	445.60	1,505,807	140,984
2020	7,943.70	-2,689.30	1,509,372	39,059
2021	4,731.60	-1,787.20	1,099,394	33,851
2022	16,544.90	228.60	1,785.206	89,839

TUI AG do not print the gross profit margin so instead Total Revenue and operating profit are used to get the gross profit.

Gross Profit Margin

2018: $19,523.90 / 122,665 = 15.91\%$

2019: $18,928.10 / 140,984 = 13.42\%$

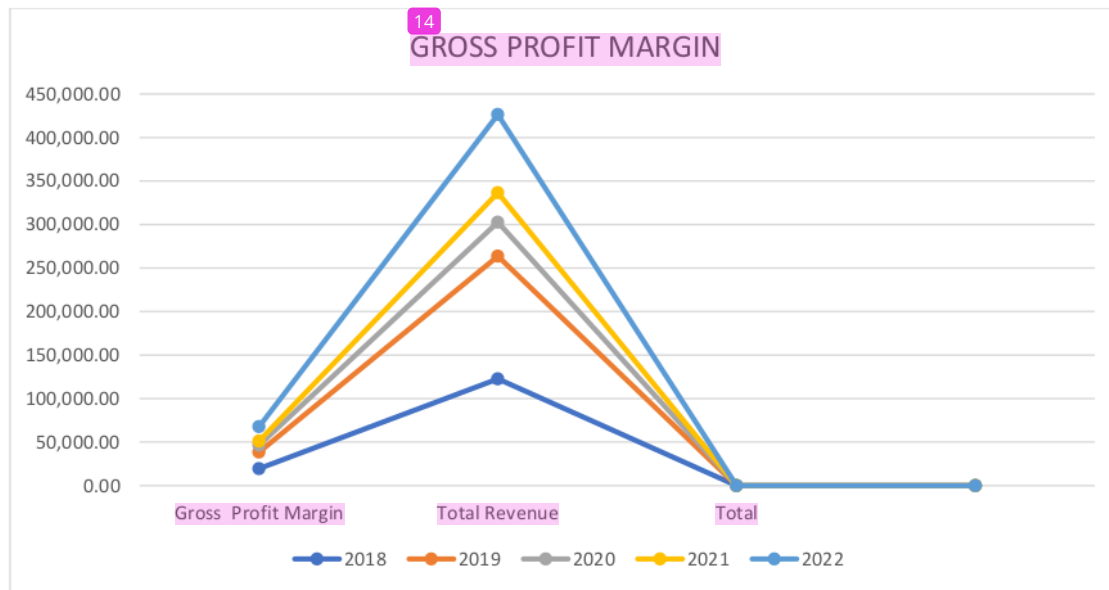
2020: $7,943.70 / 39,059 = 20.33\%$

2021: $4,731.60 / 33,851 = 13.97\%$

2022: $16,544.90 / 89,839 = 18.41\%$

TUI AG gross profit margin over the last five years has been up and down with 2019 having the lowest gross profit margin of 13,42% while 2020 seen it jump significantly up to 20,33% 2021 seen the gross profit fall again to 13,97% which is not too far from 2019 gross profit margin. 2022 the gross profit margin went up, but it remains down compared to 2020 of a gross profit margin 20,33%. **TUI, (202**

Below is a chart line on gross profit margin for TUI AG



NET PROFIT MARGIN

2018: $755,50/122,665=0.61\%$

2019: $445.60/140,984=0.31\%$

2020: $-2,689.30/39,059= -6.88\%$

2021: $-1,787.20/33,851= -5.27\%$

2022: $228,60/89,839=0.25\%$

TUI AG's net profit has fluctuated over the last five years, which suggests that the company struggled to keep operational expenses in check in 2020 and 2021.

If TUI AG's net profit was negative, 2020 and 2021 would be the most difficult years for the company. TUI will benefit from the 2022 0.25% NPM as it works to recover from 2020 and 2021.

RETURN ON EQUITY (ROE)

2018: $1,502,946/4,333,60=34.68\%$

2019: $1,505,807/4,165,30=36.15\%$

2020: $1,509,372/218,10=692.05\%$

2021: $1,099,394/418.40=262.89\%$

2022: $1,785,206/645.70=276.47\%$

In the first two years of the examination of TUI's financial statement spanning the previous five years of TUI, the ROE was unchanged at 34.68%, 36.15%, and increasing up-to 692.05% in 2020. Following a further decline in 2021, a modest increase in 2022 is expected.

COMPARING Virgin Atlantic to TUI to see how each organization performs.

VIRGIN ATLANTIC				
YEAR	TOTAL REVENUE	NET PROFIT	SHAREHOLDER'S EQUITY	SALES
2018	2,780.6	(38.4)	(21.0)	33.6
2019	2,927.1	(38.8)	(190.4)	38.8
2020	868.0	(539.2)	(575.8)	30.3
2021	928.0	(280.6)	109.5	26.3
2022	2854.3	(727)	91.5	38.1

GROSS PROFIT MARGIN

2018: $2,780.6/33.6=82.75\%$

2019: $2,927.1/38.8=75.44\%$

2020: $868.0/30.3=28.64\%$

2021: $928.0/26.3=35.28\%$

2022: $2854.3/38.1=74.91\%$

NET PROFIT MARGIN

2018: $(38.4)/33.6=1.14\%$

2019: $(38.8)/38.8=1\%$

2020: $(539.2)/30.3=17.7\%$

2021: $(280.6)/26.3=10.6\%$

2022: $(727)/38.1=19.0\%$

RETURN ON EQUITY (ROE):

2018: $(38.4)/(21.0)=0\%$

2019: $(38.8)/(190.4)=0.20\%$

2020: $(539.2)/(575.8)=0.93\%$

2021: $(280.6)/109.5=2.56\%$

2022: $(727)/91.5=7.94\%$

GROSS PROFIT MARGIN COMPARISON

While TUI's GPM was at 20.33% in 2020, Virgin Atlantic's GPM was down to 28.64% during the previous five years, placing Virgin Atlantic higher than TUI but still behind VA. Virgin Atlantic had a higher gross profit margin in 2021 (35.28% vs. 13.97%) than TUI AG, giving Virgin Atlantic the advantage.

NET PROFIT MARGIN COMPARISON

Virgin Atlantic's net profit margin has fluctuated throughout the previous five years, showing that the company has not been controlling its operating and expense costs well. In 2022, it was 19.0%

compared to TUI AG's 2022 (NPM) 0.25%. TUI AG's NPM in the same year was 0.31%, compared to Virgin Atlantic's 1% in 2019.

RETURN ON EQUITY (ROE)

Virgin Atlantic's return on equity fluctuated during the previous five years, from 2018 to 2022; in 2018, it was 0%. The VA return on equity increases from 2.56% to 7.94% in 2021 and 2022, however it increases only little in 2019 and 2020, by 0.20% and 0.93%, respectively.

Comparing the return on equity for the two companies might demonstrate how VA and TUI AG are faring in their industry. In 2018, TUI AG's ROE was 34.68%, while VAs was 0%. In 2019, TUI AG's ROE was 36.15%, while VAs was at 0.20%.

LIQUIDITY RATIO WORKING CAPITAL RATIO

TUI AG current ratio for the last five years to analysis how well TUI has met its short-term obligations from its assets.

YEAR	CURRENT ASSETS	CURRENT LIABILITES	INVENTORY
2018	4,929.70	6,887,70	13,520
2019	4,313.50	7,355,00	39,681
2020	2,693.40	6,319,30	38,411
2021	2,933,30	6,863,60	1,262
2022	3,903,80	8,742,70	1,185

CURRENT RATIO:

2018: $4,929.70/6,887,70=0.71$

2019: $4,313.50/7,355,00=0.58$

2020: $2,693.40/6,319,30=0.42$

2021: $2,933,30/6.863,60=0.42$

2022: $3,903,80/8,742,70=0.44$

The current ratio stood at 0.71 in 2018, fell to 0.58, 0.42, and 0.42 in the following three years, and then rose to 0.44 in 2022. TUI AG will have fewer current assets than liabilities in 2019, 2020, and 2021. This indicates that TUI's short-term financial health is deteriorating.

QUICK RATIO:**2018:** $4,929.70 - 13,520 / 6,887.70 = -1.24$ **2019:** $4,313.50 - 39,681 / 7,355.00 = -99.6$ **2020:** $2,693.40 - 38,411 / 6319.30 = -5.65$ **2021:** $2,933.30 - 1262 / 6,863.60 = 0.24$ **2022:** $3,903.80 - 1185 / 8,742.70 = 0.31$

The first three years' quick ratio is negative, which indicates that TUI's short-term obligations are growing less secure relative to the company's liquid assets. Tui must take action to improve its liquidity ratios.

TUI would be better to aim to increase its current assets than decrease its current liabilities to enhance its liquidity ratios. TUI would gain from better inventory control since it would increase the amount of current inventory it has, which would boost its quick ratio and enable it to satisfy its short-term obligations.

COMPARISON VIRGIN ATLANTIC LIQUIDITY RATIO WORKING CAPITAL RATIO

YEAR	CURRENT ASSETS	CURRENT LIABILITIES	INVENTORY
2018	310.0	(512.7)	804.8
2019	288.3	(515.5)	2,228.0
2020	162.0	(346.4)	1,951.7
2021	249.1	484.9	1,885.7
2022	383.4	586.8	2,171.2

COMPARING VIRGIN ATLANTIC TO TUI AG

VIRGIN ATLANTIC		TUI AG	
CURRENT RATIO	QUICK RATIO	CURRENT RATIO	QUICK RATIO
$310.0 / (512.7) = 0.60$	$(310.0 - 804.8) / (512.7) = -0.96$	$4,929.70 / 6,887.70 = 0.71$	$4,929.70 - 13,520 / 6,887.70 = -1.24$
$288.3 / (515.5) = 0.55$	$(288.3 - 2,228.0) / (515.5) = -3.76$	$4,313.50 / 7,355.00 = 0.58$	$4,313.50 - 39,681 / 7,355.00 = -99.6$

$162.0/(346.4)=0.46$	$(162.0-1,951.7)/(346.4)= -5.16$	$2,693.40/6,319,30=0.42$	$2,693.40-38,411/6319,30=-5.65$
$249.1/484.9=0.51$	$(249.1-1,885,7)/484.9= -3.37$	$2,933,30/6.863,60=0.42$	$2,933,30-1262/6,863,60=0.24$
$383.4/586.8=0.65$	$(383.4-2,171.2)/586.8= 379.6$	$3,903,80/8,742,70=0.44$	$3,903,80-1185/8,742,70=0.31$

Virgin Atlantic's current ratio has fluctuated during the last five years, reaching its greatest value of 0.65 in 2022 and its lowest value of 0.46 in 2020. Only the year 2022 appears to show an increase with 379.5 since Virgin Atlantic's quick ratio has been negative every year since 2018.

When comparing the working capital and liquidity ratios of TUI and Virgin Atlantic, Virgin Atlantic's current ratio in 2018 was 0.60, while TUI's was 0.71. In 2019, VA's current ratio was 0.55 and TUI's was 0.58.

Virgin Atlantic and TUI AG have similar fast ratios in 2020, with VA having a quick ratio of -5.16 and TUI AG having a quick ratio of -5.65. TUI's quick ratio in 2018 was -1.24, while Virgin Atlantic's was -0.96. TUI's performance is comparable for its industry.

EFFICIENCY RATIOS

The efficiency ratios for TUI allow us to see how effectively TUI manages its assets and liabilities internally.

TUI AG						
YEAR	PURCHASES	AVERAGE ACCOUNTS RECEIVABLE	COST GOODS SOLD	AVERAGE INVENTORY	NET CREDIT SALES	AVERAGE ACCOUNTS PAYABLE
2018	326,413	1,470,512	7,656	13,520	122,665	6,548
2019	249,428	1,554,133	8,691	39,681	140,984	4,859
2020	750,273	694,900	13,796	38,411	39,059	5,542
2021	1,750,290	1,385,381	11,298	1,626	33,851	5,140

2022	491,712	1,781,155	16,428	1,185	89,839	2,391
-------------	---------	-----------	--------	-------	--------	-------

RECEIVABLES COLLECTION PERIOD:**2018:** $(326,413/1,470,512) \times 365 = 81$ Days**2019:** $(1,554,133/249,428) \times 365 = 2,274$ Days**2020:** $(694,900/750,273) \times 365 = 338$ Days**2021:** $(1,385,381/1,750,290) \times 365 = 288$ Days**2022:** $(1,781,155/491,712) \times 365 = 1,322$ Days

Over the course of five years, TUI's receivables collection period has fluctuated. TUI's receivables collection returned in 2018 in 81 days, while in 2019 it took over 2200 days. In 2020, TUI saw its RCP in less than a year. The RCP for 2021 was 288 days, while 2022 it is over 1,300 days, putting TUI in a position to recover from its RCP.

TUI should start seeing a return on its RCP in the year 2025 after having a 2,274-day return on its RCP in the year 2019 that put TUI in a 6-year, 14-day return on its RCP. TUI's RCP for the year 2022 is 1,322 days, therefore TUI should experience a return in their next few years, being 2026.

INVENTORY TURNOVER PERIOD:**2018:** $(13,520/7,656) \times 365 = 644$ days**2019:** $(39,681/8,691) \times 365 = 1,666$ days**2020:** $(38,411/13,796) \times 365 = 1,016$ days**2021:** $(1,626/11,298) \times 365 = 52$ days**2022:** $(1,185/16,428) \times 365 = 0.02$ days

The fact that TUI's inventory turnover period (ITP) has fluctuated over the previous five years shows that the company is inconsistent in how it manages its inventory. In 2018, due to the influence of COVID-19, TUI's inventory turnover period (ITP) was at a five-year high, totaling 1,666 days. Covid-19 is still having an influence on TUI inventories 1,016 days into 2020. TUI continued to manage its inventory consistently following COVID-19, with 52 days in 2021 and 0.02 days in 2022.

PAYABLES PAYMENT PERIOD**2018:** $(6,548/326,413) \times 365 = 7.3$ days

2019: $(4,859/249,428) \times 365 = 7.11$ days

2020: $(5,542/750,273) \times 365 = 2.6$ days

2021: $(5,140/1,750,290) \times 365 = 1.07$ days

2022: $(2,391/491,712) \times 365 = 0.00$ days

Over the previous five years, TUI's receivables collection period has fluctuated. In 2019, TUI took 7.11 days to settle its payables payment period, while 2022 was the best year for TUI to manage its payables payment period.

Regarding how long it took TUI to turn over its inventory and the number of days that turned into years during the preceding five years, TUI's receivables inventory suffered the most. TUI's inventory, receivables, and payment practices have been uneven.

² YEAR	NON-CURRENT LIABILITIES	ORDINARY SHAREHOLDERS FUNDS	OPERATING PROFIT (EBIT)	FINANCE CHARGES
2018	6,887,70	3,698,10	755.50	-86,40
2019	7,355,00	3,453,90	445.60	-115.70
2020	6,319,30	-448,40	-2,689.30	-9.40
2021	6,863,60	-1,085,70	-1,787.20	13.80
2022	8,742,70	-141,60	228.60	-64.60

DEBT to EQUITY RATIO

2018: $(6,887,70/3,698,10) \times 100 = 186.24\%$

2019: $(7,355,00/3,453,90) \times 100 = 212.94\%$

2020: $(6,319,30/-448,40) \times 100 = -582.04\%$

2021: $(6,863,60/-1,085,70) \times 100 = -632.18\%$

2022: $(8,742,70/-141,60) \times 100 = -6,174.22\%$

TUI debt to equity ratio is at a minus for three consecutive years 2020, 2021, and 2022 the years 2018, 2019 seen an increase.

DEBT to DEBT = EQUITY RATIO:

2018: $(6,887,70 / (6,887,70 + 3,698,10)) \times 100\% = 65.06\%$

2019: $(7,355,00 / (7,355,00 + 3,453,90)) \times 100\% = 68.04\%$

2020: $(6,319,30 / (6,319,30 + 448,40)) \times 100\% = 107.63\%$

2021: $(6,863,60 / (6,863,60 + 1,085,70)) \times 100\% = 118.79\%$

2022: $(8,742,70 / (8,742,70 + 141,60)) \times 100\% = 101.64\%$

Over the past five years, TUI's debt to debt ratio plus equity ratio has increased, indicating that a sizable share of TUI assets is financed by debt. TUI's debt-to-asset ratio increased significantly in 2021 to 118.79%, with 2018 having the lowest debt levels at 65.06%.

INTEREST COVER:

2018: $755.50 / -86.40 = -8.74$

2019: $445.60 / -115.70 = -3.85$

2020: $-2,689.30 / -9.40 = 286.09$

2021: $-1,787.20 / 13.80 = -129.50$

2022: $228.60 / -64.60 = -3.53$

Over the previous five years, TUI interest cover has fluctuated, with its highest negative rise occurring in 2020 and its lowest minus decrease occurring in 2022 at -3.53. The impact of COVID-19 may cause TUI to climb most in 2020.

TUI's debt-to-equity ratio in 2022, which is minus -6,174,22, shows that the company is losing money and relying more on debt to fund its operations, which might raise its financial risk.

YEAR	MARKET PRICE PER SHARE	EARNINGS PER SHARE
2018	20	1,18
2019	20	0,71
2020	20	-5,34
2021	20	-2,58
2022	20	-0,17

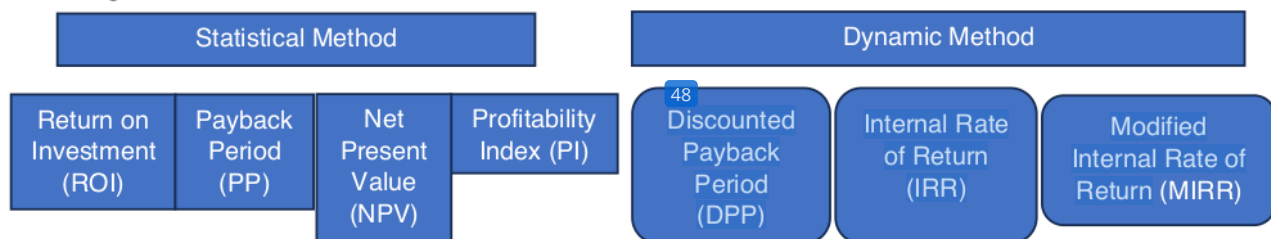
*PRICE/EARNINGS (P/E) RATIO***2018:** $20/1.18=16.94$ **2019:** $20/0.71=28.16$ **2020:** $20/-5.34= -3.74$ **2021:** $20/-2.58= -7.75$ **2022:** $20/-0.17= -117.64$

The market price per share of TUI has stayed constant over the previous five years, but earnings per share have been fluctuating. In 2018, the company's (P/E) ratio was 16.94; it increased in 2019 and decreased negative in 2020, with the highest negative increase being in 2022 minus - 117.64. TUI should strive to boost sales while cutting expenses or do both at once.

OVERVIEW OF INVESTMENT APPRAISAL METHODS

Methods for Evaluating Investment projects.

figure 1.



With the Statistical method, dynamic method for evaluating investment projects.

OVERVIEW OF INVESTMENT APPRAISAL METHODS (ARR)

According to Shahriar, et al (2021) to provide reliable forecasting results, it has also been discovered that the employment of hybrid algorithms and artificial intelligence is expanding. However, it has been discovered that the type and context of the project have a significant impact on how well different financial forecasting approaches, such as net present value (NPV), Accounting rate of return (ARR), Internal Rate of Return (IRR), Payback Period (PP), Support Vector Machine (SVM), Monte Carlo Simulation, (MCS) S curve (SC), and others, may be applied to evaluate the project.

There are several benefits and uses for ⁶⁵the accounting rate of return (ARR) equation. The ARR provides a percentage return that may be compared to a specific amount. This is a key issue for shareholders since the ARR calculation places a strong focus on profitability **Shahriar et al (2021)**.

The ARR has certain shortcomings; it may be computed in several different methods, which could result in a range of results. ARR restrictions are similarly impacted by the depreciation strategy, although they do not consider cash flow or profits alone (since they do not constitute the same concept). **Shahriar et al (2021)** states The mean income of any project after all relevant deductions and depreciations have been considered is known as ARR. There is no economic justification connecting a certain approval criterion to the objective of optimizing shareholder profit. ⁴¹The ARR total investment average annual profit, initial capital invested, the ARR works out $\text{average investment} = \frac{\text{average annual profit}}{\text{initial capital invested}}$ and the annual capital invested. Overall, the ARR can be effect for organizations **Shahriar et al (2021)**.

The primary methods for valuing investments include discounted cash flow methods (DCF) and non-discounted cash flow methods (NDCF). DCF flows into net present values and internal rates of return, while NDCF flows into accounting rate of return and payback period **Shahriar et al (2021)**.

³²OVERVIEW OF INVESTMENT APPRAISAL METHODS (NPV)

A commercial activity known as an investment is one in which capital is used in the hopes of producing future profits. The process of determining whether an investment opportunity is viable is called investment appraisal **Ye and Tiong, (2000)**. According to **Ye and Tiong, (2000)** the choice rules below may be deduced ²⁶from the concept of NPV-at-risk: If the NPV-at-risk at the provided confidence level is greater than zero, the project is acceptable with a confidence level of 1/2; otherwise, it is unsuitable. ⁴³If, on the other hand, the computed confidence level at the point of zero NPV is more than or equal to the preset confidence level, the project is acceptable; otherwise, it is undesirable.

Ye, and Tiong, (2000) state two techniques for making investment decisions include computing ¹⁰NPV at a certain confidence level and computing a confidence level now of zero NPV. Under the premise that the probability density function of return is $f(NPV)$, the NPV-at-risk ¹⁰is computed by making the integration between $2'$ and NPV equal to a , and the confidence level now of zero NPV is calculated by integrating between $2'$ and 0.

OVERVIEW OF INVESTMENT APPRAISAL METHODS (IRR)

According to **Shaturaev, (2023)** the primary issue with the statistical method is the fact that the calculation of the internal rate of return (IRR) has two issues. The first is purely mathematical; if the project's cash flows are unstable, consequently, in relation to the assumption, the IRR can change in the resulting range and deceive the investor. In contrast, the IRR is unchanged for traditional cash flows.

OVERVIEW OF INVESTMENT APPRAISAL METHODS (PP)

According to **Manos et al, (2023)** the payback approach is much more popular than the typical accounting return on investment. This displays the number of years necessary for a capital project to "pay back" its initial investment (i.e., before total net cash revenues surpass the outlay). The payback time should be as short as possible. Instead of accounting profits, we use after-tax cash receipts from a project to determine the payback time. For instance, we do not subtract depreciation from sales proceeds; only cash expenditures are.

OVERVIEW OF EACH METHOD STRENGTHS, LIMITATIONS & THEIR EFFECTIVENES (ARR)

According to **Manos, (2023)** for those who do it, determining an economic entity's profitability continues to be a complicated process. Interest parties have no choice but to use accounting-based substitutes like the accounting rate of return (ARR) and the conditional estimate of internal rate of return (CIRR) due to the inability to monitor genuine economic or internal rates of return (IRR). That discount rate is the project's 'internal rate of return'. To see whether a project is worthwhile, the firm must compare its IRR with the hurdle rate (or criterion rate)—which, of course, is the pre-selected discount rate used in the NPV method **Manos, (2023)**.

OVERVIEW OF EACH METHOD STRENGTHS, LIMITATIONS & THEIR EFFECTIVENES (NPV)

Yan and Zhang, (2022) state there is a study vacuum about whether the NPV measure is universal—if one may apply the NPV in many nations with varying economic stability?—in spite of numerous research studies. Consequently, the research issue must be resolved: Does the NPV measure that is now in use fit developing markets? This report tries to support the following claim: The time value of money is affected by the variable discount rate, necessitating a revision of the NPV calculation as a financial indicator. According to **Yan and Zhang, (2022)** The relevance of the Time Value of Money is demonstrated through NPV. The value of the now is greater than the value of the future. Many financial planners use this method to transform future cash flows into current currency by taking the time value of money into account. Hazard issues and project

profitability are given top emphasis. Then, NPV assists you in maximizing your wealth and determines if your return exceeds your actual cost. NPV encourages you to go on with the investment plan, but it cannot provide individuals with a precise timeline for when you will turn a profit. Finally, determining the proper discount rate for cash flows is challenging **Yan and Zhang, (2022)**.

OVERVIEW OF EACH METHOD STRENGTHS, LIMITATIONS & THEIR EFFECTIVENES (IRR)

Speranda, (2019) asserts that the author places particular attention to the current attempts to overcome the problem of the so-called multiple internal rates of return. The author presents a novel strategy and solution since none of the various ongoing attempts to address the issue of the multiple internal rates of return has succeeded in doing so in a complete manner. The proposed, entirely new integral method of calculating IRR and its redefinition (as a rate that does not cause the net present value to equal zero) allow for the calculation of the central rate and the corresponding central net present value in each individual case, regardless of the nature of the cash flow. IRR is represented by the central discount rate (C), which is the average rate of. According to **Yan and Zhang, (2022)** Internal rate of return (IRR) analysis is now a potent tool for assessing investments. Most individuals prefer it compared to NPV, presumably because they can understand percentage measurements easier. Since the investors reinvest cash flows, which affects the IRR, the IRR will be deceptive if the investors are unable to discover opportunities that produce the same IRR. When the internal rate of return (IRR) exceeds the weighted average cost of capital, you should consider accepting the project or investment. However, since the discount rate fluctuates year after year and is not steady, it is challenging to compare with. Additionally, IRR won't work in a variety of circumstances if there are two or more projects that are mutually incompatible.

OVERVIEW OF EACH METHOD STRENGTHS, LIMITATIONS & THEIR EFFECTIVENES (Payback Period)

Khan, et al. (2023) states an effective way to gauge the profitability of hypothetical designs with a finite lifespan. Many times, the project's performance beyond the payback period is disregarded. Does not take the time worth of money into account.

THEORETICAL CONCEPTS & NUMERICAL EXAMPLES

Definition

According to Linz (2019) let $f = a, b, y, \dots$ be a scalar field and let $x = x, y, z, \dots$ be a set. Let's create an operation of scalar multiplication between each element of f and each element of x and an action of addition between each pair of x elements.

- (a) If x is in X and y is in X then $x + y$ is in X . In mathematical shorthand notation we will write this as $x \in X, y \in X \Rightarrow x + y \in X$.
- (b) $x \in X, a \in F \Rightarrow ax \in X$.
- (c) $x + y = y + x$.
- (d) $(x + y) + z = x + (y + z)$.
- (e) There exists an element $0 \in X$ such that $x + 0 = x$ for all $x \in X$.
- (f) For each $x \in X$ there exists a unique element, called the negative of x and denoted by $-x$, such that $x + (-x) = 0$.
- (g) $a(Bx) = (aB)x$.
- (h) $a(x + y) = ax + ay$.
- (i) $(a + B)x = ax + Bx$.
- (j) $1x = x$.

Then X is called a linear space over the field F . If F is the field of real numbers, X is a real linear space; if F is the field of complex numbers, X is a complex linear space. We normally deal only with real space and unless otherwise stated, we use the term linear space to denote a real linear space.

Example 1.1 Numerous well-known examples of linear spaces that are crucial to applied mathematics and numerical analysis include:

- (a) Linear space is the collection of all vectors with n components using the standard definitions of addition and scalar multiplication. This area is designated with R^n . This example served as a major inspiration for the nomenclature used for the broader situation. As a result, a linear space is frequently referred to as a vector space and its constituent parts are termed points or vectors.
- (b) The linear space $C[a, b]$ is the collection of all continuous functions on some interval $[a, b]$. Once more, pointwise definitions are used for addition and scalar multiplication. The set of all n -times continuously differentiable functions on $[a, b]$ is a linear space, denoted by $C^n[a, b]$.
- (c) The set of all functions $x(t)$ for which

$$\int r(x(t))/p \, dt$$

The linear space L_p or $L_p[\mathbb{R}]$ exists. The reader who is not familiar with Lebesgue integration may conceive of the integral in this context as a Riemann integral without any loss of information. The space of all square-integrable functions, L_2 , is of relevance in mathematics Linz, (2019).

REFERENCE

- 1 'Efficiency of Investment Project Evaluation in the Development of Innovative Industrial Activities', (2023) *ASEAN Journal of Science and Engineering*, 3(2), pp. 147-162 Available at: <file:///C:/Users/stacey/Downloads/45675-102915-5-PB.pdf>.
- 20 Overview. (2023) Available at: <http://www.tuigroup.com/en-en/investors/share/overview> (Accessed: Jul 21, 2023).
- 45 Share price. (2023) Available at: <http://www.tuigroup.com/en-en/investors/share/share-price> (Accessed: Jul 21, 2023).
- 22 FY19 Full Year Results & Strategy Update. (2019) Available at: https://www.tuigroup.com/damfiles/default/tuigroup-15/en/investors/6_Reports-and-presentations/Presentations/2019/TUI_Group_FY19-FY-Results-Presentation-FINAL.pdf-36da7ee0706ff5629053bc7c8cc4dcbb.pdf (Accessed: Jul 21, 2023).
- 20 TUI AG (TUI) ORD REG SHS NPV (DI) Share Price I TUI. Available at: <https://www.hl.co.uk/shares/shares-search-results/t/tui-ag-ord-reg-shs-npv-di2> (Accessed: Jul 21, 2023).
- 6 Alaba Femi, AWOMEWE & Oludele Olawale, OGUNDELE (2008) *THE IMPORTANCE OF THE PAYBACK METHOD IN CAPITAL BUDGETING DECISION*. Available at: <https://www.diva-portal.org/smash/get/diva2:831159/FULLTEXT01.pdf> (Accessed: Jul 21, 2023).
- 49 Donald S. Remer a, Scott B. Stokdyk b, Mike Van Driel c (1993) 'Survey of project evaluation techniques currently used in industry - ScienceDirect', *International Journal of Production Economics*, 32(1), pp. 103-115 Available at: <https://www.sciencedirect.com/science/article/abs/pii/092552739390013B>.
- 47 Gotze, Uwe., Northcott, Deryl., Schuster, Peter. (2008) *Investment Appraisal Methods and Models* Verlag Berlin Heidelberg: Springer, pp. 5-393.
- 38 Han, H.H., Wang, C.M. (2022) 'Potential flow theory-based analytical and numerical modelling of porous and perforated breakwaters: A review - ScienceDirect', *Ocean Engineering*, 249 Available at: <https://doi.org/https://doi.org/10.1016/j.oceaneng.2022.110897>.
- 55

IVO SPERANDA and ZDENKO SPERANDA (2019) 'The Comprehensive Method of Solving the Multiple Internal Rate of Return Problem', *Montenegrin Journal of Economics*, 15(1), pp. 74-86 Available at: <https://doi.org/10.14254/1800-5845/2019.15-1.6>.

Khan, Usman. Ogbaga, Chukwuma. C., Abiodun, Omolabake. Okon-Akan., Adeleke, Adekunle. A., Ikubanni, Peter. P., Okoye, Patrick. U., Okolie, Jude. A. (2023) 'Assessing absorption-based CO2 capture: Research progress and techno-economic assessment overview', *Carbon Capture Science & Technology*, 8, pp. 2-17 Available at: https://pdf.sciencedirectassets.com/780448/1-s2.0-S2772656823X00037/1-s2.0-S2772656823000295/main.pdf?X-Amz-Security-Token=IQoJb3JpZ2luX2VjEGGaCXVzLWVhc3QtMSJGMEQCIGEPx5yNeBUIQo1%2BUQqXqFQEjsMtCIsaX1YpvSatft0jAiBe2lqQwSXZGnuQPnR4eaKlc88seVThSV6IXfTnAhsbyq8BQjx%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F8BEAUaDDA1OTAwMzU0Njg2NSIMO7sM9Bms7WS7v9ktKpAFhiHcZ5PaWUijeeR4NVmnMFRv%2FW7v6Er1TTqM%2BGLZGubHXXUJNbMldkneNtwfzzrsm13ODnVxv3hzo5n7MuLWldDipy1NkygOgMFuyIMtd3EEO10ifljc8wIX49b8di0DnD9HReW2EpwpfV0LopHTVaWetk0JwAXH2Oe6xfy1zanm4UqxzJXJ4fiZJPZb70j6txaZqtpUPPI%2B1RK5grgSVO2AtUaimm5LLi2twSJgwBjBTEi82OTt4hP6SQcB6qIRBCAflo0pk8PWC2Jp%2B1pA0WU%2BPgMoSM1KE8dXu6V1%2BfxQcEtqZLTDeomUPcVKTr4G5nm2X7bJQV0bz7FdQWT61JV%2BzVsCERNx%2BIYezo5Z%2BRm2JEz1ZevMeLNd9dMekDZpL7OeP3qcGd0YwpanYsNaleA2I%2BkMkXwNI6Fp6A%2BNoadzII%2BHJKQz0RoLynNSBmjzhGDxslvkyeSSsDWk4CgBsltkMtw8ldqCtqy9IIPOCjiOvTGLWHztedePxqJAM7%2By5FcziR6kEMf7SZKsAJWxK%2BZwYjo04rCNHpQJaFayDs01MY8aFTbsFvjExeiR2zWllgXpvkpHi0q%2BsVXVLT831IW1e8T8L%2F9r7JLQDBcfBLGLj92UKxUK5wk%2F53%2Bto%2F8IMyvRlwpqzevbDrHHTeokpkjdHiy9zKPM0T4qTCXRn2pcUduwA%2BugeWjzmzmejiViKeanBe4c%2Bcb44DIYKQURIU%2BZtBIITuIKCII44LcpJGfo%2FagY6z%2BViZcpOqzGtRijLuxTSY0eyQ4%2Byp%2BTlhagF%2FoKzK8%2FyWCFSWOLT1dbn4cxgyQnRXBfzalrV2ofjvT5ts%2FuOdS59PHYH5MCGM7%2FESKhPhns8%2BoawX7%2B%2Fww%2FI71pQY6sgHzr8j3aoqoz8qDBpvwWpEhnoU0XXWfUDqxisv8eAS8P2IJ2EmV0BsP5Ywbtsaia8S0DrD%2BWUuS6sEahYD27esXDRLWoQ3V0YCAP3p1EWR9bvWLXfNRhkI9pwaHqAAs49etGSYw83Ba2qUenRORxFHEdyn6LYgDyuBaPGShal39wvACIKbJhX5II2gxazkuRCE74fLM0hc3yPHBhLITH0FivN0L0whhY4G%2F0kQbhSzGf40&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20230723T153959Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=ASIAQ3PHCVTY6FOH37KI%2F20230723%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Signature=564231ff7f5c2db26dedb3ad95272fbff5ec3bc25ec3cece3cb7199e5ed7741&hash=9cfec8fa3676e7d1c2518bdd09a3e05f3c591ff01740d038840064252c0a7991&host=68042c9435

91013ac2b2430a89b270f6af2c76d8dfd086a07176afe7c76c2c61&pii=S2772656823000295&tid=spdf-0a031c2a-a451-4bae-9ccf-468fea178930&sid=3311035f1d71b746f75a80d34c28b6647d64gxrbq&type=client&tsoh=d3d3LnNjaWVuY2VkaXJlY3QuY29t&ua=01005101075b51500406&rr=7eb504ec9d7b240b&cc=gb.

London Stock Exchange (2023) *Stock*. Available at: about: blank (Accessed: Jul 21, 2023).

Ronny Manos, Keith Parker & D. R. Myddelton (2023) 'Basic Capital Project Appraisal I SpringerLink', *Corporate Finance for Business*, , pp. 33-58 Available at: https://link.springer.com/chapter/10.1007/978-3-030-92419-5_2.

Sangster, A. (1993) 'Capital investment appraisal techniques: A survey of current usage', *Journal of Business Finance & Accounting*, 20, pp. 307-332 Available at: <https://doi.org/10.1111/j.1468-5957.1993.tb00258.x>.

Shahriar, S., Hasan, K.B.M., Hossain, T., Haque Beg, T., Islam, K.M. and Zayed, N. (2021) 'FINANCIAL DECISION MAKING AND FORECASTING TECHNIQUES ON PROJECT EVALUATION: A PLANNING, DEVELOPMENT AND ENTREPRENEURIAL PERSPECTIVE', *Academy of Entrepreneurship Journal*, 27(4), pp. 1-7.

TUI (2019) *Annual Financial Statements Balance Sheet*. Available at: https://www.tuigroup.com/damfiles/default/tuigroup-15/en/investors/6_Reports-and-presentations/Reports/2019/TUI_AG_Bericht_2019_EN.pdf-e0c607c96ae7a1cef6f87bcb0a91f79a.pdf (Accessed: Jul 21, 2023).

TUI (2018) *Annual Financial Statements*. Available at: https://www.tuigroup.com/damfiles/default/tuigroup-15/en/investors/6_Reports-and-presentations/Reports/2018/TUI_AG_financial_statements_2018_Web.pdf-bc19fc01e868722efcdb67b1c9199bba.pdf (Accessed: Jul 21, 2023).

TUI Group (2022) *TUI GROUP STRATEGY*. Available at: https://www.tuigroup.com/damfiles/default/tuigroup-15/en/investors/1_TUI-Group-at-a-glance/strategy-equity-story/TUI_AR_2019_Strategy_EN.pdf-e2e6a4fb76be5fb85029d7e990680862.pdf (Accessed: Jul 21, 2023).

TUI Group (2021) *ANNUAL FINANCIAL STATEMENTS BALANCE SHEE*. Available at: https://www.tuigroup.com/damfiles/default/tuigroup-15/en/investors/6_Reports-and-presentations/Reports/2021/TUI_AR_2021_Financial_Statements_EN.pdf

[presentations/Reports/2021/TUI_AGBericht2021_EN_211207.pdf-328d3dbe49a7413ecb0a248b49e679f9.pdf](#) (Accessed: Jul 21, 2023).

³ TUI Group (2020) *ANNUAL FINANCIAL STATEMENTS BALANCE SHEET*. Available at: https://www.tuigroup.com/damfiles/default/tuigroup-15/en/investors/6_Reports-and-presentations/Reports/2020/TUI_AGBericht2020_EN.pdf-c0d969685784ca7939de8045e7f0c696.pdf (Accessed: Jul 21, 2023).

⁵ Usman Khan a, Chukwuma C. Ogbaga b, Okon-Akan Omolabake Abiodun c d, Adekunle A. Adeleke e, Peter P. Ikubanni f, Patrick U. Okoye g, Jude A. Okolie h (2023) 'Assessing absorption-based CO2 capture: Research progress and techno-economic assessment overview - ScienceDirect', *Carbon Capture Science & Technology*, 8 Available at: <https://doi.org/https://doi.org/10.1016/j.ccst.2023.100125>.

Virgin Atlantic (2022) *Consolidated statement of comprehensive income*. Available at: <https://corporate.virginatlantic.com/content/dam/corporate/Virgin-Atlantic-Annual-Report-2022-F-signed.pdf> (Accessed: Jul 21, 2023).

Virgin Atlantic (2021) *Consolidated statement of comprehensive income*. Available at: https://corporate.virginatlantic.com/content/dam/corporate/Virgin%20Atlantic%20Annual%20Report%202021_compressed.pdf (Accessed: Jul 21, 2023).

Virgin Atlantic (2020) *Consolidated statement of comprehensive income*. Available at: https://corporate.virginatlantic.com/content/dam/corporate/Virgin%20Atlantic%20Annual%20Report%202020_final%20v1.pdf (Accessed: Jul 21, 2023).

Weiss Shai (2018) *Consolidated statement of comprehensive income*. Available at: https://flywith.virginatlantic.com/content/dam/corporate/Virgin%20Atlantic%20Annual%20Report%202019_Final.pdf (Accessed: Jul 21, 2023).

Yan, R. and Zhang, Y. (2022/03/26) *The Introduction of NPV and IRR*. Atlantis Press, pp. 1472.

³⁴ Ye, Sudong., Tiong, Robert. L. K. (2000) 'NPV-AT-RISK METHOD IN INFRASTRUCTURE PROJECT INVESTMENT EVALUATION', *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*, pp. 1-7 Available at: <https://shaghoor.ir/Files/2000-174.pdf>.

¹⁸ Ye, S. and Tiong, R.L.K. (2000) 'NPV-at-Risk Method in Infrastructure Project Investment Evaluation', *Journal of Construction Engineering and Management*, 126(3), pp. 227-233 Available at: [https://doi.org/10.1061/\(ASCE\)0733-9364\(2000\)126:3\(227\)](https://doi.org/10.1061/(ASCE)0733-9364(2000)126:3(227)).

Zbysław Dobrowolski and Grzegorz Drozdowski (2022) 'Energies | Free Full-Text | Does the Net Present Value as a Financial Metric Fit Investment in Green Energy Security?', 15(1) Available at: <https://doi.org/https://doi.org/10.3390/en15010353>.

Zhironkin, S., Michal (2023) 'Energies | Free Full-Text | Economic and Technological Advances of Green Energy and Sustainable Development: The Overview', *Economic and Technological Advances of Green Energy and Sustainable Development*, 16(10), pp. 4193 Available at: <https://doi.org/https://doi.org/10.3390/en16104193>.

Financial Management

ORIGINALITY REPORT

30%

SIMILARITY INDEX

17%

INTERNET SOURCES

13%

PUBLICATIONS

23%

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to University of Bedfordshire

Student Paper

3%

2

Submitted to University of Wales, Lampeter

Student Paper

1%

3

Submitted to The University of the West of Scotland

Student Paper

1%

4

Submitted to Global Banking Training

Student Paper

1%

5

Submitted to University of Aberdeen

Student Paper

1%

6

Submitted to Anglia Ruskin University

Student Paper

1%

7

www.mdpi.com

Internet Source

1%

8

www.bib.irb.hr

Internet Source

1%

9

Submitted to University College Birmingham

Student Paper

1%

10	Sudong Ye, Robert L. K. Tiong. "NPV-at-Risk Method in Infrastructure Project Investment Evaluation", Journal of Construction Engineering and Management, 2000 Publication	1 %
11	Anthony N. Michel. "Vector Spaces and Linear Transformations", Algebra and Analysis for Engineers and Scientists, 2007 Publication	1 %
12	Ronny Manos, Keith Parker, D. R. Myddelton. "Chapter 2 Basic Capital Project Appraisal", Springer Science and Business Media LLC, 2023 Publication	1 %
13	Submitted to Submitted on 1687140082663 Student Paper	1 %
14	www.coursehero.com Internet Source	1 %
15	Submitted to Manchester Metropolitan University Student Paper	1 %
16	www.researchgate.net Internet Source	1 %
17	Submitted to Elizabeth School of London Student Paper	1 %
18	koreascience.or.kr Internet Source	

1 %

19

www.tuigroup.com

Internet Source

1 %

20

Submitted to University of Ulster

Student Paper

1 %

21

Submitted to Cheshire College South and Wes

Student Paper

1 %

22

Submitted to University of Reading

Student Paper

1 %

23

Submitted to The Manchester College

Student Paper

<1 %

24

Submitted to Kaplan College

Student Paper

<1 %

25

Submitted to University of Bolton

Student Paper

<1 %

26

ieomsociety.org

Internet Source

<1 %

27

Submitted to University of Bradford

Student Paper

<1 %

28

home.ku.edu.tr

Internet Source

<1 %

29

Submitted to University of Southampton

Student Paper

<1 %

30	rpb117.nsysu.edu.tw Internet Source	<1 %
31	www.alliedacademies.org Internet Source	<1 %
32	Submitted to Edge Hill University Student Paper	<1 %
33	Eschenbach, Ted. "Economic Analysis of Industrial Projects", Oxford University Press Publication	<1 %
34	Submitted to University of Limerick Student Paper	<1 %
35	Submitted to Westcliff University Student Paper	<1 %
36	Submitted to Pearson College Student Paper	<1 %
37	www.maths.sussex.ac.uk Internet Source	<1 %
38	researchers.uq.edu.au Internet Source	<1 %
39	Submitted to RDI Distance Learning Student Paper	<1 %
40	Submitted to Buckinghamshire Chilterns University College Student Paper	<1 %

41	Submitted to University of Essex Student Paper	<1 %
42	www.citethisforme.com Internet Source	<1 %
43	Submitted to University College London Student Paper	<1 %
44	www.magonlinelibrary.com Internet Source	<1 %
45	Submitted to Anglo American University Student Paper	<1 %
46	Submitted to Nottingham Trent University Student Paper	<1 %
47	Submitted to University of Wales Trinity Saint David Student Paper	<1 %
48	silo.tips Internet Source	<1 %
49	Donald S. Remer, Scott B. Stokdyk, Mike Van Driel. "Survey of project evaluation techniques currently used in industry", International Journal of Production Economics, 1993 Publication	<1 %
50	Submitted to Liverpool John Moores University Student Paper	<1 %

51	123dok.com Internet Source	<1 %
52	repository.dkut.ac.ke:8080 Internet Source	<1 %
53	www.hsskgroup.com Internet Source	<1 %
54	kipdf.com Internet Source	<1 %
55	link.springer.com Internet Source	<1 %
56	myassignmenthelp.com Internet Source	<1 %
57	Submitted to Oxford Brookes University Student Paper	<1 %
58	apessay.elementfx.com Internet Source	<1 %
59	documents.mx Internet Source	<1 %
60	ebin.pub Internet Source	<1 %
61	Submitted to University of Edinburgh Student Paper	<1 %
62	biopen.bi.no Internet Source	<1 %

63

Pugachev, . "SETS. SPACES. FUNCTIONS",
Lectures On Functional Analysis And
Applications, 1999.

Publication

<1 %

64

Seal, Will, Rohde, Carsten, Garrison, Ray.
"EBOOK: Management Accounting, 6e",
EBOOK: Management Accounting, 6e, 2018

Publication

<1 %

65

Epstein, Lita; Schneider, Arnold. "Accounting
for Healthcare Professionals, 2e", Zovio Inc,
2022

Publication

<1 %

66

Ivo Speranda, Zdenko Speranda. "The
Comprehensive Method of Solving the
Multiple Internal Rate of Return Problem",
Montenegrin Journal of Economics, 2019

Publication

<1 %

Exclude quotes Off

Exclude matches Off

Exclude bibliography Off