Final Project

Z-Score Analysis of Five Listed Companies

In the Same Industry for FY 20X1-20X2
(Bold, 16 font size, Times New Roman style)

A REPORT
SUBMITTED TO THE DEPARTMENT OF MANAGEMENT SCIENCES,
VIRTUAL UNIVERSITY OF PAKISTAN
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTERS IN BUSINESS ADMINISTRATION
(Bold, 12 font size, Times New Roman style)

Submitted By

<<Student ID>>

<<Student Name>>
(Bold, 16 font, Times New Roman style)

Department of Management Sciences
Virtual University of Pakistan

Letter of Undertaking

You are required to fill in the **Letter of Undertaking** provided in the 'Download' section of the course VULMS and attach here the scanned copy after signing it.

Note: There is NO need to send us its hard copy through post or any other means.

Job Confirmation Letter

You are required to attach here scanned copy of your original and fresh JCL (Job Confirmation Letter) which is provided to you by your current organization/employer.

Note:
You are also required to send us the same in hard form at the address which is mentioned in lesson no.3 of this course.

Overseas students are required to carefully read the note which is especially mentioned for them in lesson no.3.

Dedication (*Optional*)

Acknowledgement

Here you will write a brief paragraph to acknowledge the help and support you received through out your project. You can acknowledge the library staff, lecturer, family or any other person who helped you in your project completion.

Executive Summary

An executive summary is one among the several important parts of a report. It is like a micro image of the research report because it covers all the sections of the report. It may range from one to two pages providing brief overview of the subject matter, methods of analysis you used in the project, findings based on your analysis and recommendation in the light of the findings. It comprises several paragraphs which are numbered and deal with the following sections:

NOTE: In the following paragraphs your actual work must be reflected.

Paragraph one (1) should deal with back ground of the study.

Paragraph two (2) should deal with the purpose and methodology of the research/study.

Paragraph 3, 4 should deal with the findings of the study.

Last paragraphs should deal with recommendations of study and action plan if any.

Table of Contents

(Enlist the main headings and sub-headings of the project along with page numbers)

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Table of contents

1"

1

1 ½"

Section I

Chapter 1)   Introduction

You are required to provide a brief introduction of the selected companies and their business activities. Companies selected must be generating profit for the most recent two years.

1.1 Financial Period Under-Consideration for Analysis:

You are required to mention the financial years for ratio analysis such as: FY20X1-FY20X2. Most recent two years Z-Score analysis should be done.

1.2 Objectives:

You will carry out this Project to know the bankruptcy position of the selected companies. This Project will highlight:

- Which of the selected companies is/are in financial distress
- The possibility of bankruptcy/default of the selected companies within a period of two years
- Which of the selected companies have sound financial health .i.e. away from bankruptcy and is/are attractive for investment by rational investors

Note: At the end of the study, objectives must be assessed to see if they have been met/achieved or not.

1.3 Significance:

You will state here the significance of this Project for the stakeholders like investors, creditors and the companies' management. You will state here why you want to carry out this type of Project.

Chapter 2)   Methodology

This section should provide solid or concrete foundations to the study. Quality and value of the research report depends upon how precisely and accurately the data is collected, processed, analyzed and interpreted so that fruitful conclusions may be drawn out of it. It includes:

2.1 Data Collection Sources: (Describe the sources used for data collection either one or both)

- Primary Sources
- Secondary Source

2.2 Data Processing and Analysis Tools:

➢ Mention the methods used to extract and process the information gathered

- Software used to process the data

Z-Score Analysis of five listed companies under consideration will be conducted for the most recent TWO financial years.

Z-Score Analysis Project

In this project, you have to:

- Select **five listed companies existing in the same industry. Selection of private/unlisted companies is not allowed. Companies selected must be generating profit for the most recent two years.**
- Get their financial statements for the **most recent two years** and
- Perform the **Z-Score** analysis

Note:

You are required to read the document **"Predicting Financial Distress-The Z-Score Analysis"** available in the Downloads section of this course before preparing your project. This document will guide you what is Z-Score Analysis, requirements of this analysis and how it should be done.

Z-Score Analysis

Special Guidelines for Presentation Z-Score Analysis

Follow the steps given below for presenting Z-score analysis of **all companies**.

Step 1: **Calculate the ratios as per the sector selected for study**

Ratios Required for Manufacturing Companies (if selected companies are from manufacturing sector)

X_1: Working Capital/Total Assets (WC/TA)

X_2: Retained Earnings/Total Assets (RE/TA)

X_3: Earnings before Interest and Taxes/Total Assets (EBIT/TA)

X_4: Market Value of Equity/Book Value of Total Liabilities (MVE/TL)

X_5: Sales/Total Assets (S/TA)

Ratios Required for Non-Manufacturing/Service Companies (if selected companies are from non-manufacturing/service sector)

X_1: Working Capital/Total Assets (WC/TA)

X_2: Retained Earnings/Total Assets (RE/TA)

X_3: Earnings before Interest and Taxes/Total Assets (EBIT/TA)

X_4: Market Value of Equity/Book Value of Total Liabilities (MVE/TL)

Z-Score Analysis of Company A

Calculate the required ratios and show them on a table as follows:

Company A	
Year 20X1	**Year 20X2**
X1: Working Capital/Total Assets	
104,488,232,000 / 202,548,387,000 = 0.51 times	135,359,574,000/ 226,426,625,000 = 0.59 times
X2: Retained Earnings/Total Assets (RE/TA)	
X3: Earnings before Interest and Taxes/Total Assets (EBIT/TA)	
X4: Market Value of Equity/Book Value of Total Liabilities (MVE/TL)	
X5: Sales/Total Assets (S/TA) **(for manufacturing sector only)**	
<u>**Interpretation**</u> You have to explain the **trend of ratios** for the company and the reasons for changes in the trend along with **comparison** i.e. company's performance (better/ poor/ same) for the two consecutive years with reasons.	

*
* Round the answers upto two decimal places for better presentation of values.
* Must mention the measuring unit with each result you have calculated in all required
  ratios just like mentioned with above results.

Working
After the table, show how you have calculated the amounts given in numerator and denominator (ONLY for those items that require calculations).
e.g.
Working Capital   = Current Assets – Current Liabilities
                       = 22222 - 11111 = ******

NOTE: If items are clearly categorized and provided in the financial statements then there is no need of working. Working is required only for those items for which the calculated amounts in the financial statements are not provided.

For example:

1) Total assets = 202,548,387,000 (provided in the financial statements)
In this case there is no need to show the working of calculating total assets.

2) Market value of equity ----not provided in the financial statements (for market value of equity/book value of total liabilities ratio)
Now you are required to show the working for calculating market value of equity like this:

Market value of equity = Market Price * Number of shares outstanding
$$= 33 * 11111 = ******$$

Also provide details of the source that you have consulted for taking market price of that particular company.

Step 2: Application of calculated ratios' results/values in Z-Score Formula

Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5 (For manufacturing companies)
Z= 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4 (For non-manufacturing/service companies)

After the calculation of ratios, show the Z-Score table.

Z-Score for Company A						
	1.2X1	1.4X2	3.3X3	0.6X4	1.0X5	Z-Score
For manufacturing companies						
For non-manufacturing/service companies	6.56X1	3.26X2	6.72X3	1.05X4	-	Z-Score
Year 20X1						
Year 20X2						
S						

Step 3: Interpret the Z-Score of Company A

In this section, you are required to interpret Z-Score of company A as per the guidance given in the document **"Predicting Financial Distress-The Z-Score Analysis"** available in the **Downloads** section of this course. Interpretation should be in terms of whether company is in Safe zone, Grey zone or in Financial Distress zone over the two years. Also state the reasons of major deviations if the company is moving from one zone to another.

Note:

You have to follow the same format for all the five selected companies. Remember, without formulas, working and interpretations your analysis will NOT be accepted.

- You must provide scanned copies of all the financial statements used for financial analysis. However, if you have downloaded the financial statements from organization's website then URL or web link should be provided. In this case, scanned copies will not be required. Note: Without providing the scanned copies or URL of the organization's website, your work will NOT be accepted /evaluated.

  Scanned copies should be provided in the following format:

  Resolution: 200 dpi

  File type: JPEG

  Size: 300-400 kb

- You must perform complete Z-Score analysis of the selected companies for the **MOST RECENT TWO YEARS**.

- You must provide all the supporting calculations, working and interpretation of results obtained from each ratio. You are required to calculate/analyze all required ratios as if you will not calculate even a single ratio then you will not be able to calculate Z-Score and consequently Z-Score analysis.

  NOTE: Failure to provide the financial statements, supporting calculations and working of analyses in your project will affect the worth of your work and may result in failure/rejection of the project.

- While selecting companies for analyses, keep in mind that they are from same industry for example; you CANNOT select one company from Textile, one from Cement and one from Sugar. All three companies should be either from textile or from sugar or from cement sector.

- You can get annual reports of companies from companies' offices, stock exchanges or from companies' websites.

## Chapter 4) Summary, Conclusion and Recommendations

4.1) Summary

This section should contain summary of Z-Score Analysis of all five selected companies together.

Make a table in the following way:

Z-Score Analysis (Crux)					
Year	Company A	Company B	Company C	Company D	Company E
20X1	2.5	6.7	1.8	3.06	7.29
20X2	2.8	5.2	2.5	3.58	8.1
* All figures mentioned in this table are hypothetical/supposed figures. You will be required to write actual figures you will calculate after doing Z-Score Analysis.					

After the table, plot the graph as shown below:
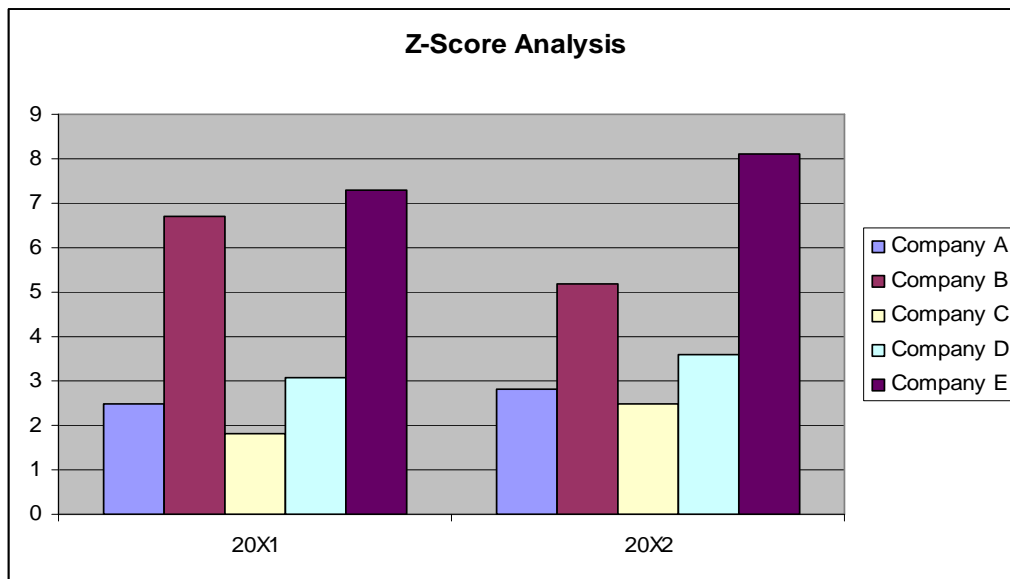
4.2) Conclusion

Precisely state the final outcomes of the work. Conclusion should include the assessment of objectives stated under study such as which of the selected companies are in Safe, Grey or Financial distress zone, which of the selected companies are attractive for investment and the possibility of bankruptcy in selected companies. Conclusion/findings should be in short yet comprehensive sentences/paragraphs. Each sentence/paragraph describing new idea should be bulleted.

4.3) Recommendations

This section deals with your proposed solutions or plans to cover and remove all the flaws and deficiencies that you think (in light of Z-Score Analysis) needs to be removed

or improved. Recommendations should be clear, specific and based on your findings. They must be logical, applicable and supporting facts you have encountered while doing analysis. These should be given in bullets form however, make sure that these bullets should be self explanatory.

Section II

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a) **Introduction of the student**

- Last Degree Obtained:

- Organization's Name:

- Designation:

- Experience (Years)

b) **Appendix/Appendixes**

These contain material related to the report but not included in the text because these were lengthy or not directly relevant. These include scanned copies of financial statements. However, if you have downloaded the financial statements from organization's website then URL or web link should be provided. In this case, scanned copies will not be required.

c) **Bibliography**

A bibliography is a list of source materials on a particular subject. In a formal report it shows what books and other library materials were consulted. As part of the reference matter, it follows the appendix or appendices. APA format should be used for citing the references.

Note: The APA formatting guidelines for the references citation are given in the lecture # 45 of the course "Research Methods (STA630)". You must review and watch video lecture # 45 of STA 630 for your better understanding. It is advised to explore downloads link of this project course where APA guidelines file is also available.