Effect of Audit Quality and Credit Rating on Earning management

United International University

Internship Report On

Effect of Audit Quality and Credit Rating on Earning management

Prepared for

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Internship (Summer, 2019)

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Letter of transmittal

30th August, 2019

Dr. James Bakul Sarker

Associate professor

School of Business and Economics,

United International University

Subject: Submission of the internship Report.

Dear Sir,

I am pleased to submit my internship report on ***"Effect of Audit Quality and Credit Rating on Earning management".*** I have completed my internship in IDLC Finance Limited under your supervision which helped me to enhance my practical knowledge. This report is very significant as it is one of the most important requirements of completing my under graduate program (BBA in Ais). I have completed the task with the help of practical knowledge, secondary data and internet. I have made every effort to cover up all the key points I have understand. I have tried my level best to make this report comprehensive.

It will be a great privilege for me if you kindly spend some of your valuable time having seen the full paper and give your valuable opinion. If there any type of confusion you can get in contact on this email monishaakter392@gmail.com.

Sincerely yours,

Manisha Akter

ID# 114 151 042

BBA in AIS

School of Business and Economics

United International **University**

Declaration

I would like to solemnly announce that this report titled, "*Effect of Audit Quality and Credit Rating on Earning management"* is presented here are done under the supervision of Dr. James Bakul Sarker, Associate professor of United International University (UIU). I have completed all the work presented here with utmost honesty and the report presented here is my own.

Manisha

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(Signature)

Manisha Akter

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Acknowledgement

At first, I would like to thank to the Almighty Allah who gives me the strength to complete the report properly. Though three months period is short, I have gathered short experience and knowledge as an internee in IDLC Finance Limited.

I would like to show my deepest gratitude and to give special thanks to Dr. James Bakul Sarker, Associate professor of School of Business and Economics in United International University (UIU) who has provided me guidance and flexibility to make this report on "*Effect of Audit Quality and Credit Rating on Earning management"* successfully.

It was a great opportunity for me to work as an intern in IDLC Finance Limited, corporate head office, Gulshan. The supportive and friendly environment has never let me feel that I am only an internee in that organization. I would like to thank all of them who support and give me guidance during my internship period of the organization. Besides I have special appreciations to the following people of IDLC:

- ❖ **Nastaran Tasnim,** Manager, Statutory Reporting & Corporate Affairs

- ❖ **Md. Jahid Hasan,** Senior Executive Officer, Statutory Reporting & Corporate Affairs

Moreover, I would also like to thank all other employees of IDLC Finance Limited, my parents & friends who helped me a lot in conducting this report within the limited period of time.
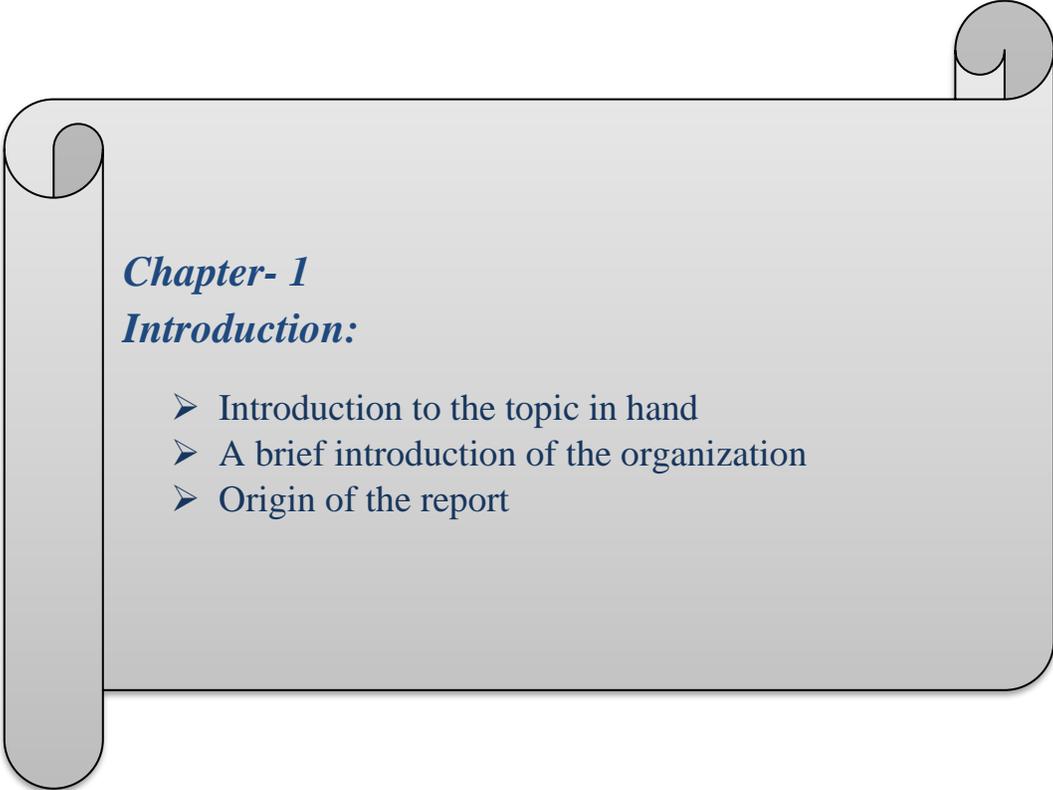
Executive summary

This report was made on "Effect of Audit Quality and Credit Rating on Earning management". As reqired by the supervisor, Dr. James Bakul Sarkar, Associate Professor of BBA Department, United International University the report was made as the outcome of three months Internship program in IDLC Finance Limited. The purpose of the study was to analyze the effects of big four audit firms on the engineering companies of Bangladesh and also found the influence of credit rating on earning manipulation. The result reveals insignificant relation between Audit quality (big4) and earning management. Similar relationship is also documented for credit rating and earning management.

This report consists of ten chapters. Each chapter has been defined with details description. Tables and figures of the analysis was included for better understanding. The report is described in a way that readers can understand about the study properly. After main study parts references and appendix is also added. Only APA 6 format was used for referencing the report.

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Chapter-1

Introduction

1.1 Introduction to the topic in hand

In 21stcentury accounting scandals for example Enron, Ahold, Xerox, WorldCom, Adelphia in different countries like America and other have upraised queries about the audit quality and auditor responsibility. For increasing the reliability among investors and lessening corporate governance risks worldwide countries have reformed codes as guideline for identifying misstatements in financial reporting. Some of this are-

1. In United Kingdom-Cadbury Report (1992)

2. In United States of America -Sarbanes Oxley Act (2002)

3. In Germany- The Cromme Code (2001)

4. In France -Vienot Report (1995) etc.

The drive behind forming such regulations is to increase the corporate governance environment (Adeyemi, Okpala, &Dabor, 2012, as cited in Hasan, 2018).

Management to give accounts their stewardship by fulfilling their primary responsibilities of financial reporting. Financial reporting is important because ownership is separated from

management. Sometimes the relations generate conflicts between shareholders and managers for their underlying interests. Because of these conflicts managers sometimes manipulate earnings which affect decision making (Tyokoso, 2017). Earnings management is vital for decision making as a result of the shareholders, investors, suppliers, lenders, taxing authorities and many others bank on the information can badly affect if there are any misinformation. (Yaşar, 2013)

Management policies affect Information of earnings which are specified by the management through financial reports for certain purposes (Scott, 1997, as cited in Sumiadji, Chandrarin and Subiyantoro, 2019). From agency theory viewpoint when the interests of stockholders clash with interests of management, management may act their own interest. Reported earnings are usually

tied to management recompense therefore managers have capability to control reported earnings for which they got incentives (Healy &Wahlen 1999). In order to change the earnings performance over a short term managers get chance to mistreat their managerial discretion. They can try to alter the opinion of credit rating agencies about credibility of the firm by doing this. Managers get strong incentives of influencing investor decisions by manipulating so they try to change the opinion (Bouwens, 2017). In view of the concerns of earnings management, regulatory authorities need to be more concern in monitoring mechanisms which will ensure that managers are working in the interest of the shareholders. Previous Literature suggests that audit quality is one of the best mechanisms in monitoring managerial resourcefulness (Tyokoso, 2017). Thus, an auditor is required to provide reasonable assurance that financial statements are free of material misstatements and therefore protects the interests of stockholder and quality audit can ensure the reliability and accuracy of financial information. The necessity of quality audit is increasing with the frauds, manipulation, business failures etc. because it helps to reduce manipulation of earnings. For this quality audit has become crucial.

1.2 A brief introduction of the organizations

As the study was conducted on engineering companies of Bangladesh, So some of these will be explained here.

Aftab Automobiles Limited:

Aftab Automobiles Limited is a Public Limited Company. assembly of Toyota Land Cruiser Soft Top / Pick-Up, Hino Mini Bus/ Truck, Hino Bus, Land Cruiser Prado, chassis in 3 shifts in assembly unit with a manufacturing capability of 2400 units of cars were the company's main operations.

Bangladesh Building Systems Ltd:

Bangladesh Building Systems Ltd (BBS) is a private limited company. Manufacturing of various Pre-Engineered Steel Buildings Structure in accordance to the designs are one of the primary activity of the company.

BSRM Steels limited:

Since 1950, the BSRM Group of businesses has been in the steel company and is now considered to be the most effective group in this industry in the country. It was also the first automatic re-rolling mill in the country.

Quasem Industries Ltd.:

Quasem Industries Ltd. (QIL) is Bangladesh's biggest and first ISO accredited drycell manufacturing company, featuring the country's most advanced battery production technology.

The firm owns and runs a contemporary drycells plant and generates metal jacket batteries UM-1 and UM-3 and sells the same in local markets. It also imports and sells products on local markets.

Rangpur Foundry Ltd.

RFL Group began its operations in the cast iron industry. After that it has added new product line. RFL has become a benchmark for quality rivals by producing premium quality products to provide outstanding customer service and real value for money.

Western Marine Shipyard Ltd.:

Western Marine Shipyard Ltd., the major shipbuilder in Bangladesh. The company's main operations are to create, build, dockyard, slipway, erect, build shipyard, workshop on its own territory, buy or otherwise undertake slipway, shipyard, dockyard, workshop etc. ownership / management to carry on the shipbuilding and repairing business.

1.3 Origin of the report

This report is originated after the completion of three months period of internship conducted at IDLC Finance Limited, Gulshan, Dhaka. The head office is situated at Bay's Galleria, 57 Gulshan Ave, Dhaka 1212. After completing 120 credits of BBA I have started my internship in IDLC Finance Limited (Statutory Reporting & Corporate Affairs Dept). The report submission is necessary for completing my last three credits of BBA program. So, I have completed this report by the help of the skills I have gathered in my internship period.
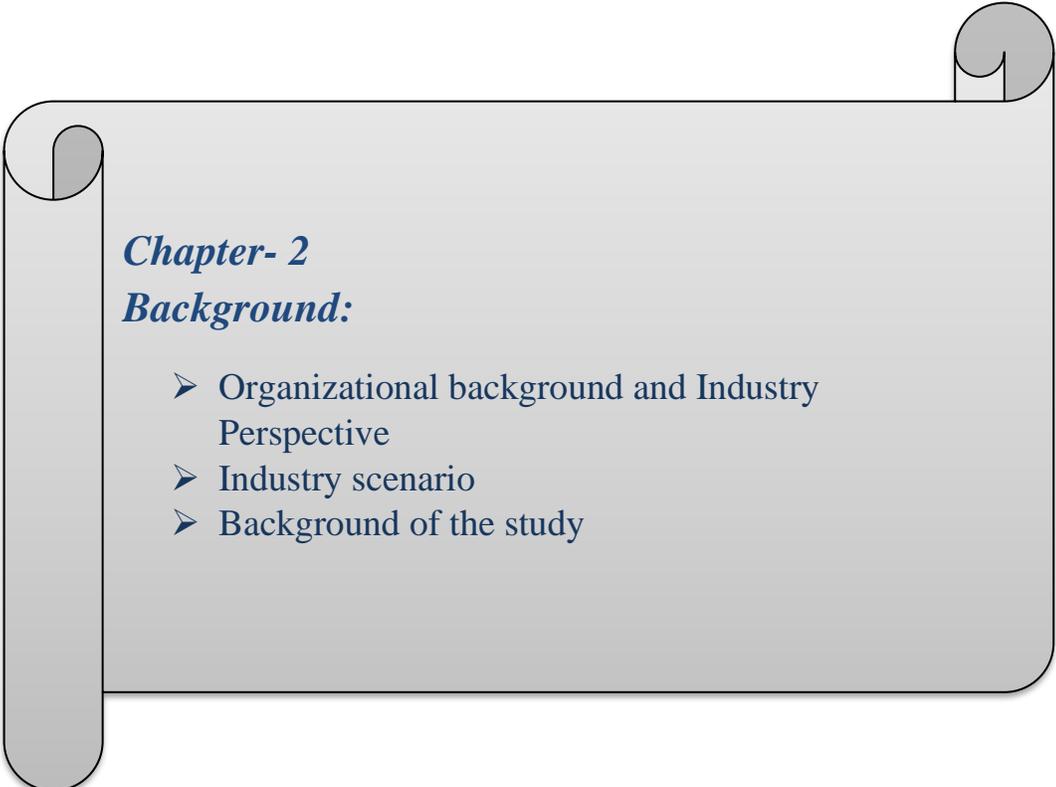
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- ➢ Organizational background and Industry Perspective
- ➢ Industry scenario
- ➢ Background of the study

Chapter-2

Background

2.1 Organizational background and Industry Perspective

The necessity of an engineering industry is beyond description. And growth in this sector is also important because in order to keep pace with the changing world innovation, creativity is necessary. The industry helps in quality improvement and increasing efficiency. It was become important form The Industrial Revolution. The Industrial Revolution has changed the worlds and become the reason of many new things. During 1760 to between 1820 and 1840, a new process of manufacturing was applied. The change was using machine from hand.

The engineering industry or sector of Bangladesh is gradually becoming as an important source of mechanisms for the country. The major industrial growth is creating impact on other industries, economies also. Engineering sector includes Construction, Manufacturing, machinery etc.

In the study DSE listed engineering companies were used. Backgrounds of some of these are given below:

Aftab Automobiles Limited

Aftab Automobiles Limited (erstwhile East Pakistan Automobiles Limited) was a Private Limited Company at the time of its incorporation in 1967and then its mission was to assemble ta Land Cruiser (Jeep). The company converted into Public Limited Company In 1981 which is the sole biggest assembler-cum-progressive manufacturer of Hino & Toyota vehicles in the private sector of the country. At present, the Assembling Plant is at Fouzderhat Heavy Industrial Estate, Chittagong.

Bangladesh Building Systems Ltd

Bangladesh Building Systems Ltd (BBS) was incorporated in July 19, 2003 which is a Private Limited Company. Under the Companies Act 1994 Bangladesh Building Systems Ltd was registered with the Registrar of Joint Stock Companies. Manufacturing of various Pre-Engineered Steel Buildings Structure in accordance to the designs are one of the primary activity of the company. Under "BBS" brand it also provides full pledge consultancy and architectural services and marketing of the Pre-Engineered Steel Building. The PRD (Product Research and Development Department) of the company always works for innovating new concept and machinery according to the demand of the customers. Its management team includes 210 professionals and 25 graduate engineers who works technically to meet clients expectation. The capability of BBS is to manufacture 15,000 MT of steel building products that could cover 40,000,000 sft. Area of the ground annually.

BSRM Steels Limited

The BSRM saga started its journey in East Bengal in 1952 with the first steel re-rolling factories. BSRM Steels Limited (BSRMS), a business unit of the BSRM Group, was set upin 2002 to meet the increasing steel requirements of the country. Bangladesh Steel Re- Rolling Mills Limited (BSRM), the BSRM Group's main concern is the pioneering industry producing high-grade steel rods with an annual capacity of 120,000 MT. In spite of having one of the biggest capabilities in the re-rolling sub- sector, BSRM was overloaded with orders and increased waiting lists as well as back orders for their MS engines despite their cash-based sales.

IFAD Autos Limited

IFAD Autos Limited was incorporated in 1988. It Introduced Double Decker Bus & Tyre Business in 1989. It was listed as

public ltd company in 2011. It is the sole agent of Ashok Leyland's since 1994. Its main activity and operation is the importation, marketing and body-building of various vehicle models of Ashok Leyland in Bangladesh through its own marketing staff, retailers and sales agents in various districts across the nation.

Quasem Industries Ltd.

Quasem Industries Ltd. (QIL) is a public Limited Company and is listed in Dhaka Stock Exchange (DSE) and the Chittagong Stock Exchange (CSE) and has been designated a Blue Chip Company. It is founded in 1980. Quasem Industries Ltd. (QIL) is Bangladesh's biggest and first ISO accredited drycell manufacturing company, featuring the country's most advanced battery production technology. QIL has emerged today as the leading supplier of UM-1, UM-3 and UM-4 batteries, reflected by the over 75 percent local market share presently enjoyed by the QIL brand SUNLITE. Besides being the most common brand in Bangladesh, SUNLITE is also regarded to be the highest quality battery available in Bangladesh, a reputation reflected in the high price point that the battery occupies on the market relative to other local rivals, which it can retain while still having the biggest market share. In 2007, QIL started to import and assemble multiple types of LED flashlights to increase battery demand in Bangladesh, using the well-established brand name of SUNLITE to market this new product.

Rangpur Foundry Ltd.

RFL Group began its operations in the cast iron industry with Hand Tube -well's manufacturing and marketing in 1981. RFL was created as a well-known brand for quality goods and technical skills within a very brief moment. In addition to continually adding fresh products to its product line, it is committed to significant diversification and entered the Plastic Sector in 2003 and the PVC Sector in 1996. Currently, it is the market

leader in all three industries in the nation: Cast Iron, PVC & Plastic. Significant quantities are also exported to various nations.

To design and create fresh products, it is fitted with in-house R&D equipment. To guarantee consistency in the production of quality products, a well-organized testing laboratory is used. BSTI Certificate and ISO 9001 Certificate have been given to RFL for rigorous accordance with the standards set by both organizations. RFL has become a benchmark for quality rivals by producing premium quality products to provide outstanding customer service and real value for money.

Western Marine Shipyard Ltd.

Western Marine Shipyard Ltd., the major shipbuilder in Bangladesh, was founded in Chattogram in the year 2000. Western Marine Services Ltd. the mother company of Western Marine Shipyard Ltd. was created by a group of marine experts specialized in marine supply export and ship repair. Initially, the company was founded in Chattogram in 2000 on the Karnaphuli River's eastern bank as a shipbuilder with its own shipyard. The business has since gradually gained reputation as a significant shipbuilding company with a motive based on quality. Now-a-days Western Marine Shipyard is the country's prominent shipbuilder, upgraded through a Tk.300 crore investment to a world-class shipyard composed of all kinds of high-tech & heavy tech equipment. For 3500 people, including skilled and semi-skilled workers, it is an employment source. Also in the shipyard there are more than five hundred professionals, including naval architects, marine experts, electrical engineers, mechanical experts, and other field experts. The yard constructs an array of ocean-going vessels for Kenya, Tanzania, India, New Zealand, Germany, Denmark, and the United Arab Emirates, Ecuador, Norway and many more.

2.2 Industry scenario

Aftab Automobiles Limited Aftab Automobiles Limited is listed with Dhaka and Chittagong Stock Exchange Limited. The authorized capital of the company is 3,000,000,000 tk. and paidup

capital is Tk. 957,324,220. The Earning per share (EPS) of the company for 2018 was 2.68.

Bangladesh Building Systems Ltd

Bangladesh Building Systems Ltd is listed in Dhaka Stock Exchange Limited. The authorized capital of the company is 31500.00 mn and paid-up capital is 141,064,704 tk. The Earning per share (EPS) of the company for 2018 was 1.93.

BSRM Steels Limited

BSRM Steels Limited is listed in Dhaka Stock Exchange Limited. The authorized capital of the company is 5,000,000,000 tk. and paid-up capital is 3,75,9,525,000 tk. The Earning per share (EPS) of the company for 2018 was 5.27.

IFAD Autos Limited

IFAD Autos Limited is listed with Dhaka and Chittagong Stock Exchange Limited. The authorized capital of the company is 3,000,000,000 tk. and paid-up capital is 2,479,906,000 tk. The earning per share (EPS) of the company for 2018 was 7.01.

Quasem Industries Ltd.

Quasem Industries Ltd. is listed with Dhaka and Chittagong Stock Exchange Limited. The authorized capital of the company is Tk.2000 Million and paid-up capital is Tk. 404,794,360.The Earning per share (EPS) of the company for 2018 was 1.51.

Rangpur Foundry Ltd.

Rangpur Foundry Ltd. is listed with Dhaka and Chittagong Stock Exchange Limited. The authorized capital of the company is Tk.200, 000,000 Tk. and paid-up capital is Tk. 10,000,000. The Earning per share (EPS) of the company for 2018 was 3.90.

Western Marine Shipyard Ltd.

Western Marine Shipyard Ltd. is listed with Dhaka and Chittagong Stock Exchange Limited.

The authorized capital of the company is Tk.6, 000, 000,000 Tk. and paid-up capital is Tk. 1,662,805,020. The Earning per share (EPS) of the company for 2018 was 2.71.
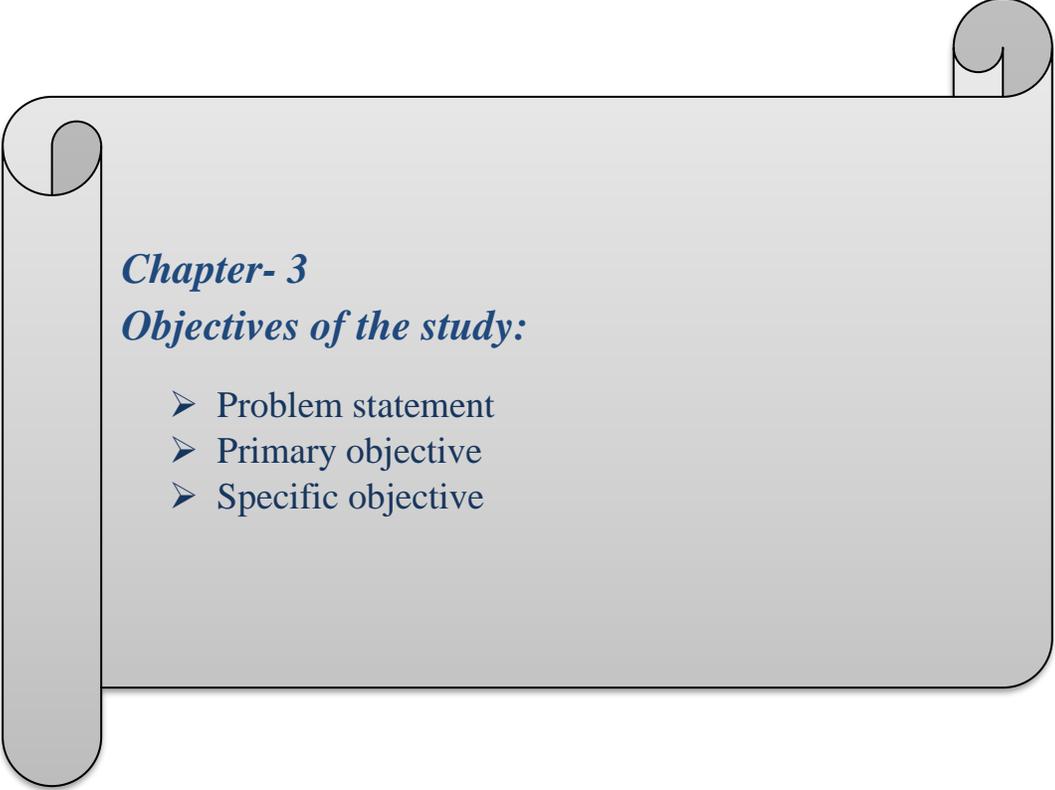
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Objectives of the study:

- ➢ Problem statement
- ➢ Primary objective
- ➢ Specific objective

Chapter-3

Objectives of the study

3.1 Problem statement

In different countries there are numerous previous studies regarding the effect of audit quality, credit rating on earning management and used various proxies of audit quality like- audit firm size, audit tenure and audit fees etc. to measure the effect of audit quality on earnings management. But the results are not same all the time. A study in Tunisia concentrated on the proxies of auditor industry specialization, big 4 and auditor tenure. The study found that big 4 and auditor industry specialization is associated with accrual earnings management at lower and no association of longer auditor tenure on earnings management (Inaam, Khmoussi and Fatma, 2012). On the other hand, the study conducted on Eygpt results the opposite that earnings management have insignificant association with audit firm size and auditor industry specialization but significant positive relationship with auditor tenure (Yasser, S. Soliman, M., 2018). Becker, (1998) found that non-big six auditors have higher discretionary accruals than big six auditors. The study result finds that in Indonesia audit tenure and auditor size has effect on earning quality and no effect of audit specialization (Sumiadji, Chandrarin and Subiyantor, 2019). A study was conducted on 382 firms to check the connection between accruals quality and big 4 affiliated auditors in Bangladesh. The study concludes that in Bangladesh there do not have any positive impact of big 4 affiliates on accruals quality (Kabir, Sharma, Islam, Salat, 2011). Previous literature suggests that unrated firms managers usually manipulate earnings misinform investors. Rated firms managers have a tendency to exercise their operating and accounting discretion for informative purposes, (Gounopoulos and Pham, 2016). Graham. J., Harvey, C. and Rajgopal, S., (2005) conduct a survey and evidence shows that a desirable rating preserve is one of the key reasons for earnings management. As the above research findings give inconclusive results, a research will conduct to make better understanding of the relation among audit quality, credit rating and earnings management.

Research question

1. Is there any effect of Big -4 firms Audit quality on Earnings management in Bangladesh

2. Is there any effect of credit rating on Earnings management in Bangladesh

3.2 Primary objective

The purpose of examining the study is to identify the effect of audit quality and credit rating on earning management of listed engineering companies in Bangladesh.

3.3 Specific objective

1. To find relation between Audit quality and Earnings management
2. To find relation between credit rating and Earnings management
3. To find the effect of Big -4 firms Audit quality on raising or reducing Earnings management in Bangladesh
4. To find the effect of credit rating on increasing or decreasing Earnings management in Bangladesh
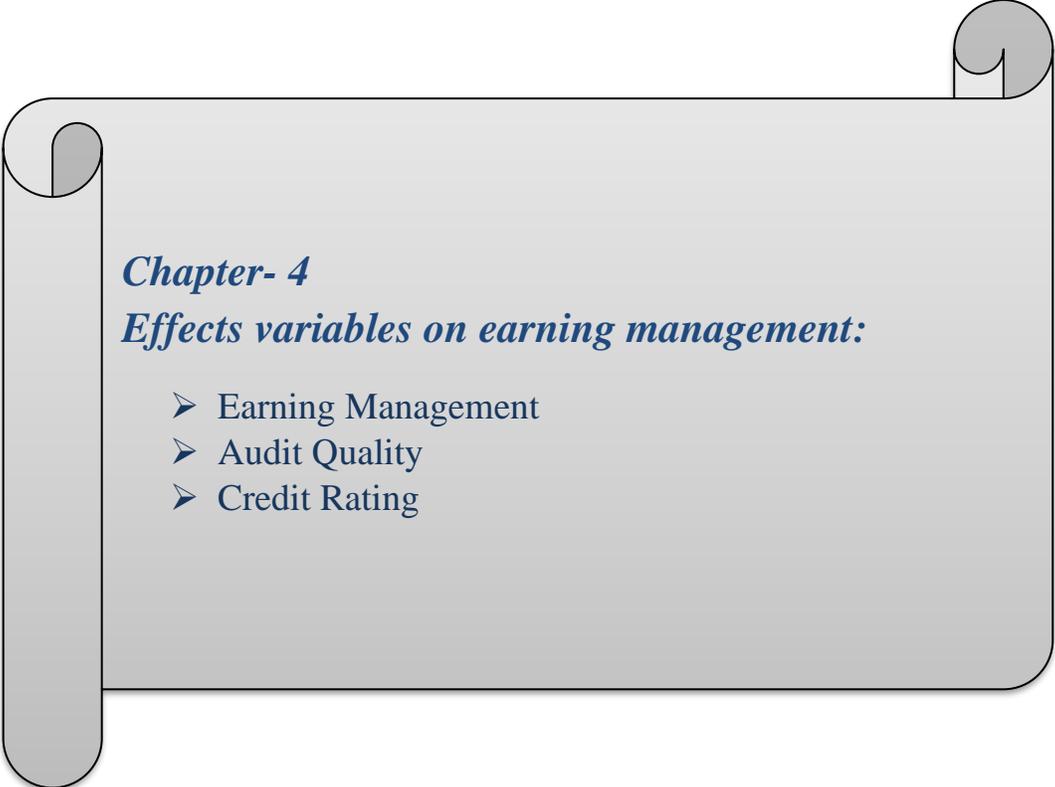
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- ➢ Earning Management
- ➢ Audit Quality
- ➢ Credit Rating

Chapter-4
Effects variables on earning management

4.1 Earning Management

Earnings management is called in different name by researchers such as accounting number game (Mulford and Comiskey, 2002), creative accounting (Balaciu, Bogdan&Vladu, 2009), income smoothing (Tucker & Zarowin, 2006). Healy and Wahlen (1999) stated that "Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting practices." Management tries to get incentives by using income-increasing or income-decreasing earnings management. Firms that are facing financial difficulties chose their way of earnings management depending on the level of their financial difficulties. Management selects Income-increasing earnings management for showing to the creditors that the companies are facing provisional financial difficulties. Conversely, income-decreasing earnings management is selected when financial difficulties were long-lasting and creditors did not accept the firms in this condition request for a waiver (Jaggi and Lee, 2002). Accruals can be categorized into two types: the normal or nondiscretionary accruals and the abnormal or discretionary accruals. The normal or expected of total accruals is not likely to reflect earnings management but abnormal accruals are most likely to reflect the manipulation of earnings. That's why discretionary accruals are prioritized most on the studies as proxy for earning management (Kaplan 1985, as cited in Mousawi and Thuneibat, 2011).

4.2 Audit Quality

Auditing is the reverse procedure of accounting. Auditing starts with the financial statements items and traces back to the evidence of these items. To ensure that financial statements are

fairly presenting the effects of events, auditors collects sufficient audit evidence relating to these items and complete the audit process. After processing and ensuring that the evidence are fairly presented, auditor provides an report and audited financial statements which provide users assurance that the financial information are free from misstatement and reliable for decision making (Kitiwong, 2014). According to, Hayes, R., Dassen, R., Schilder, A., & Wallage, P. (2005), corporate management has the responsibility of preparing financial statement by following rules and regulations and auditor has the responsibility of giving reliability to this financial statement (Hayes, as cited in Hasan,2018). According to De Angelo's (1981) definition, audit quality is two- dimensional. First; technical capabilities used to identify errors and material misstatements in financial statements. Second; Auditor independence is crucial for reporting these errors and material misstatements. Auditor's capability and auditor's independence considered as a function of Audit quality. Nevertheless, in reality, it is tough for an auditor to know that the client is involved in earnings manipulation if there is not a clear evidence of this. Notably, Auditor or an audited firm may not detect earning management during an audit or may not able to remove the manipulation from financial audit (Kitiwong, 2014).

Previous literature suggest that different proxies is used to measure the audit quality such as audit tenure, audit firm size, audit industry specialization, litigation, re-presentation and so on (Hu, D., 2015). This study applied big4 audit firm as proxy of audit quality by following the earlier literature. Yasar (2013) studied in Istanbul stock exchange firms during 2003-2007and finds in some institutional environments accrual earnings management may not confine by audit quality of big four and discretionary accruals did not influenced by audit firm size. A study conducted on Portugal and finds, companies have significantly lower level of earnings management who contract audit by big 4 than non-big 4 audit firm. (Lopes, P. A., 2018). Octaviani (2017) found no effect between earning management and audit quality on the study. A study conducted on Pakistan found no statistical distinction between Big 4 and non-Big 4

auditor's earnings management activities (Abid, Shaique and Haq, 2018). Though previous literature shows contradictory result on the effect of big 4 on audit quality, a negative relation between audit quality and earnings management is expected.

4.3 Credit Rating

"The Credit Rating Agency Reform Act of 2006 describes a credit rating as a statistical method to determine the likelihood that a firm will pay back its debt. Credit ratings are most often done by credit rating agencies. A credit rating agency is an independent agency that evaluates the creditworthiness of a firm, security, or obligation as of a specific date and assigns a rating that reflects its assessment of the issuer's ability to fulfill their financial obligations" (John, 2016). "Bangladesh credit rating industry started its journey with the mandatory requirement of having credit rating for all public debt instruments, right offer issues and shares issued at a premium before the same were offered to the public. In the year of 2002, Credit Rating Information & Service Limited (CRISL) started its operation as the first registered credit rating agency of Bangladesh." The rating agencies review both financial and nonfinancial sources of information with diligence and give an independent opinion about the creditworthiness by serving like a doorkeeper (Frost, 2007). Firms can enjoy benefit by getting broad credit rating. For example, future borrowing cost can be influenced by changing credit risk. On the other hand, investors may become discourage by seeing low credit rating (Kisgen, 2006). Users of financial information consider earnings as most important in the financial reports (Degeorge, Patel, & Zeckhauser, 1999) that's why management uses earning as a key target for discretion. In the procedure of cash flow matching with the financial reporting standards for a certain period, earnings management is used to change earnings (Degeorge, as cited in Bouwens, 2017). According to Frost (2007), a credit rating works like a signal of overall quality. Some firms manipulate earning to achieve a better credit rating which will give signal to users. But problem arise when they become successful in obtaining their desired higher rating by earning management because it could harm the quality of these ratings.
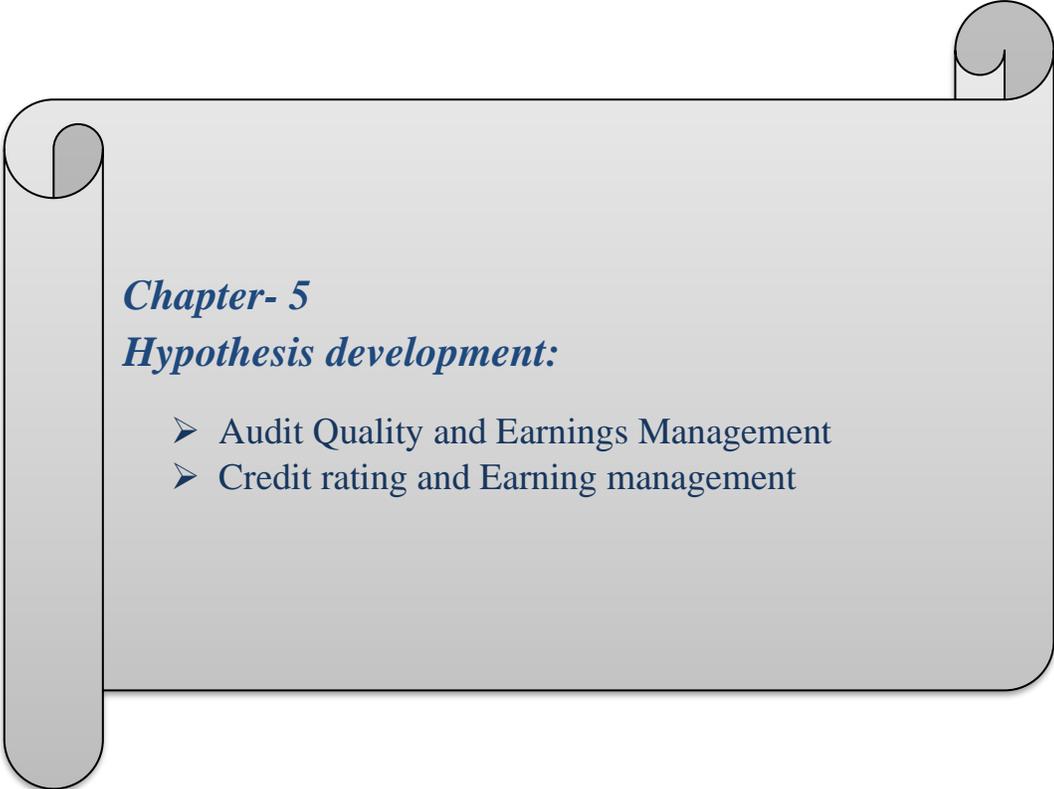
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Hypothesis development:

- ➢ Audit Quality and Earnings Management
- ➢ Credit rating and Earning management

Chapter-5

Hypothesis development

5.1 Audit Quality and Earnings Management

Financial statements information is the connector of auditing and earning management mainly because earning manipulation changes the financial information necessary for decision making which affect the users decision whereas quality auditor ensures the manipulation, error free, reliable financial information which helps users in accurate decision making. Schauer (2002) also advises that "a higher quality audit increases the probability that the financial statements more accurately reflect the financial position and results of operations of the entity being audited". So it is expected that there will be a negative relation between audit quality and earning management (Schauer, Octaviani, M., 2017). Moreover, company value is expressed by audit quality. Managers anticipate to show the true value of the firms explicitly when they have the confidence about the financial performance and report. By certifying the report through higher quality auditor they got incentives (Titman and Trueman, 1986). A study conducted on Bangladesh reveals that the relationship between accruals quality and big 4 affiliates in Bangladesh rest on the measures of accruals models and accruals quality used and big 4affiliates have a negative effect on accruals quality in Bangladesh (Kabir, Sharma, Islam, Salat, 2011). Another study conducted on Bangladesh results that discretionary accruals has positive connection with business group affiliation status and complex ownership structure, weak investor protection aids controlling shareholders in manipulating earnings. The result also suggests that higher audit quality can reduce the connection and improve earning quality in weak investor protection environment (Muttakin, Khan, and Mihret, 2017). Overall, previous studies suggested that audit quality can play an important role to constraint earning management.
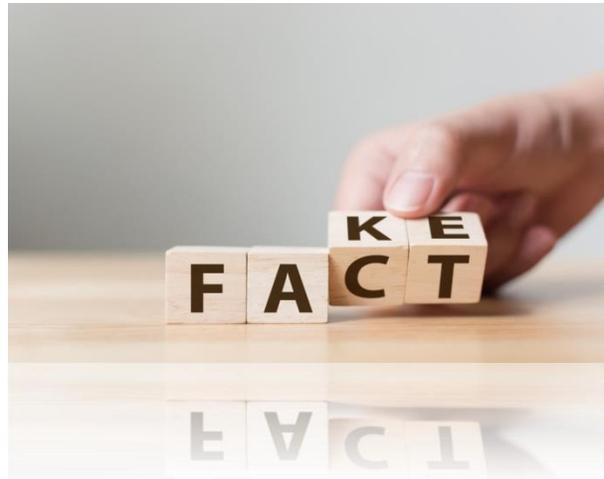
Based on the discussion the study draws the hypothesis,

H₁: There is a significant negative relation between big 4 and earning management

5.2 Credit rating and Earning management

The purpose of credit rating agency is to measure the creditworthiness and solvency of a firm in order to reduce or for reducing the asymmetric information between the lenders and the borrowers (Bouwens, 2017).According to Alissa, W., Bonsall, S. B., Koharki, K., & Penn, M. W. (2013), for getting their expected ratings companies engaged in income increasing or decreasing earning management. Management believes that they can be more benefited by achieving a favorable credit rating through earning management and it will be greater than the future agency costs when user detect this manipulation. Firms involved in less earnings manipulation that are not close to a broad credit rating change than close to a short credit rating change (Ali & Zhang, 2008). According to Mali, Dafydd and Jong-seo, Choi (2016), as a form of strong corporate governance abnormal accruals are considered low by credit rating agencies. To control credit ratings, firms involves in earnings management. Bouwens, (2017) found in that firms engaged in earnings management who will face broad rating downgrade soon and no earnings management for firms who will face broad rating upgrade soon.

After all the discussion the study formulate the hypothesis,

H₂: There is a significant negative relation between Credit rating and earning management
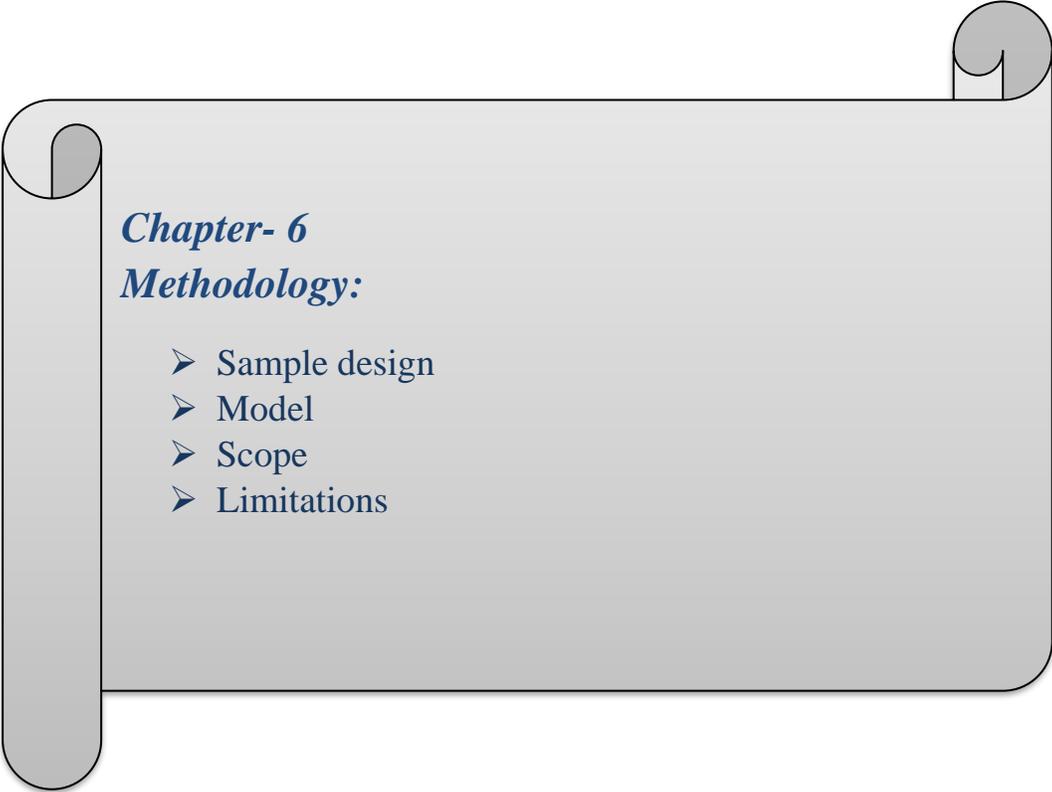
Chapter- 6
Methodology:

- ➢ Sample design
- ➢ Model
- ➢ Scope
- ➢ Limitations

Chapter-6
Methodology

6.1 Sample design

Type of data:

- Secondary data was used.

Data collection process:

- Annual Reports of engineering companies
- Website of engineering companies
- Website of Dhaka Stock Exchange
- Website of Chittagong Stock Exchange
- Publications related to the topic

Sample Size:

- 20 engineering companies listed on Dhaka Stock Exchange (DSE) for the years 2014-2018.
- Data for 2013 was also collected for some variables.

Sampling technique:

- Selective sampling was used for collecting data
- MS Excel, STATA 13 software was used for data processing and analysis

6.2 Model

"Dechow et al. (1995) tested several models purporting to parting total accruals into normal and abnormal components. They conclude that the Modified Jones Model is the most effective in identifying abnormal accruals that likely reflect earnings management."

There are many regression accruals model by which discretionary accruals can be estimated. Kitiwong was summarized eight regression model which are given below:

Model	Author	Regressand	Regressors	Methodology, Data
Jones Model	Jones (1991)	ACC=ΔCA-ΔCASH-ΔCL+ΔSTD+ΔTP-DEP	ΔREV, PPE	OLS, Time-series
Modified Jones Model	Dechow, Sweeney, and Sloan (1995)	ACC=ΔCA-ΔCASH-ΔCL+ΔSTD –DEP	ΔREV-ΔAR, PPE (only for the event year)	OLS, Time-series
Industry Model	Dechow and Sloan (1991) and Dechow, Sweeney, and Sloan (1995)		MedianACC	OLS, Time-series
IV/GMM Model	Kang and Sivaramakrishnan (1995)	ACC=AR+INV+OCA-CL-DEP	δREV, βEXP, γPPE	IVV/GMM
Cross-sectional Model	DeFond and Jiambalvo (1994); Teoh, Welch, and Wong (1998a); and Teoh, Welch, and Wong (1998b)	ACC=EXBI-CFO	-The same as Jones Model and Modified Jones Model. -Kasznik (1999) added changes in operating cash flow (ΔCFO) into models	OLS, Cross-sectional
DD model	Dechow and Dichev (2002)	ΔWC= ΔAR+ΔINV-ΔAP-ΔTP+ΔOA	Prior period CFO, current period CFO, and following period CFO	OLS, Time-series
McNichols Model	McNichols (2002)	Similar to DD Model	ΔREV, PPE, Prior period CFO, current period CFO, and following period CFO	OLS, Time-series
Performance-matched discretionary	Kothari, Leone, and Wasley (2005)	The same as Dechow, Sweeney, and Sloan (1995)	Included return on assets (ROA) in the Jones Models and the Modified Jones Model	OLS, Cross-sectional

(Kitiwong, 2014). From the above regression model the study is conducted by using discretionary accruals which are measured by using Modified Jones Model. The Panel data was used for the Ordinary least square (OLS) regression of dataset. Now a question arise "what is panel data"? Panel data is called multi- dimensional data. It includes time-series and cross-sectional data. After measuring discretionary accruals, OLS regression technique was applied by using STATA 13 software to find the relationship among earning management, audit quality and credit rating.

6.3 Scope

Engineering is a broad sector to know. This report consists of engineering sectors earning quality, audit quality and credit rating which indicates overall picture of earning related issues.

By preparing this report I was able to know about the engineering sectors of Bangladesh. I was also able to gather knowledge about the research of country and foreign about the effect of audit and credit rating on earning management.

6.4 Limitations

As 3 month time is less for gathering all about a topic because of time limitation and incomplete data the study was conducted on small sample size. A future study can be conducted for overcoming these limitations. Other than this, as the topic is not fully related with my internship works so it was challenging for me to gather knowledge about the topic.
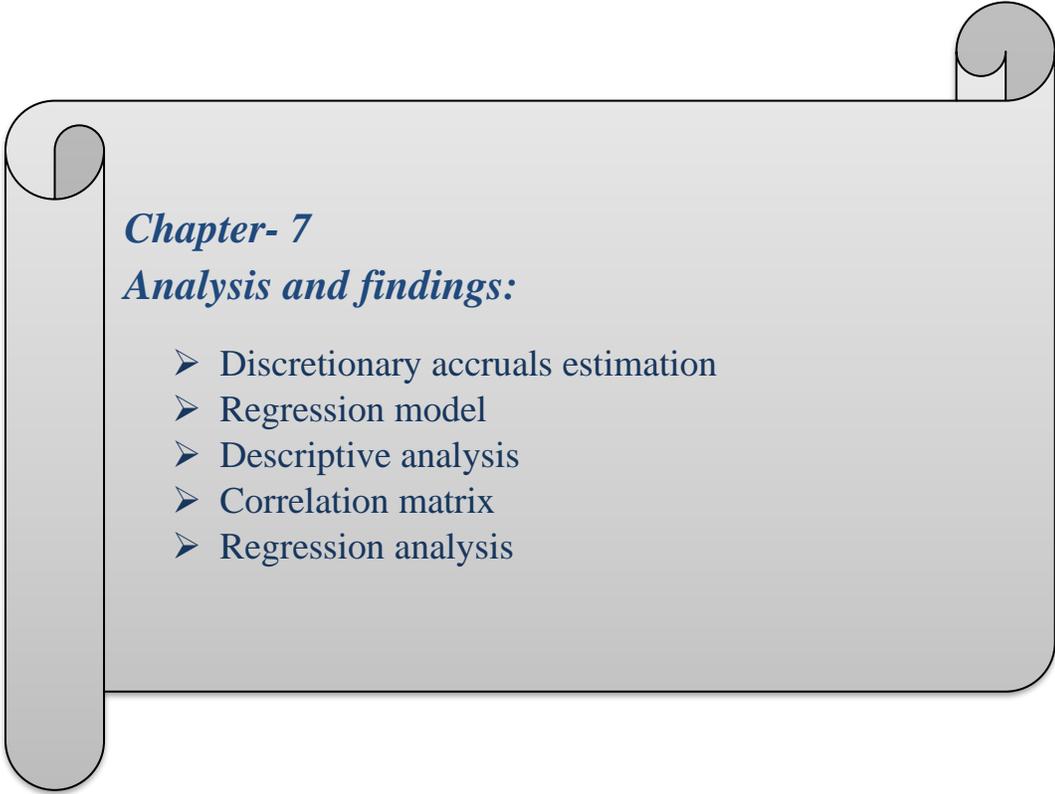
Chapter- 7
Analysis and findings:

- ➢ Discretionary accruals estimation
- ➢ Regression model
- ➢ Descriptive analysis
- ➢ Correlation matrix
- ➢ Regression analysis

Chapter-7

Analysis and findings

7.1 Discretionary accruals estimation

Discretionary accruals give the scope of identifying earning manipulation than non-discretionary accruals. Compatibility with previous literature the research used discretionary accruals as dependent variable and measured by using the following Modified Jones Model.

Table 1

Estimation of discretionary accruals

$$TACC_{it}/A_{it}\text{-}1 = \alpha_1 [1/A_{it}\text{-}1] + \alpha_2 [(\Delta REV_{it} - \Delta AR_{it})/A_{it}\text{-}1] + \alpha_3 [PPE_{it}/A_{it}\text{-}1 + ei]$$

Here,

$TACC_{it}$: Total accruals for study firms i in year t

$A_{it}\text{-}1$: Total assets for study firms i in year t-1

ΔREV_{it} : Change in net revenues for study firms i in year t

ΔAR_{it} : Change in accounts receivables for study firms i in year t

PPE_{it} : Gross property, plant and equipment for study firms i in year t

e_{it} : Error term (discretionary accruals for study firms i in year t)

$\alpha 1, \alpha 2$ and $\alpha 3$: are study firms specific parameters.

7.2 Regression model

After determining discretionary accruals regression model need to test. For regression a model need to build up. To test the relationship between dependent and independent variable, Ordinary linear regression (OLS) is applied in the study. The model is specified below:

Table 2

Regression model

$$DA_{it} = \beta_0 + \beta_1 AUDB4_{it} + \beta_2 CRA_{it} + \beta_3 LEV_{it} + \beta_4 FSE_{it} + \varepsilon$$

Here,

DA_{it}: Discretionary accruals

$AUDB4_{it}$: Audit firm size

CRA_{it}: Credit rating agency

LEV_{it}: Financial leverage of client

FSE_{it} : Financial statement size

7.3 Descriptive analysis

The descriptive analysis is describing the values of observation, mean, standard deviation, minimum and maximum of the data which were used in the study and sampled from listed engineering companies of Bangladesh. The values of the variables are presented in Table-3.

Table 3

Descriptive statistics

Variable	Observation	Mean	Std. Dev.	Min	Max
DA	100	2.00e-09	.3359113	-.4274538	.8886178
AQbig4	100	.26	.440844	0	1
CRA	100	.9	.3015113	0	1
Size	100	9.576587	.5904824	8.253386	10.65973

Leverage	100	.5582971	.2752344	.0773751	1.728611

In Table 3 the observation representing the sample size used during the study. Table 3 show the 2.00 mean values for discretionary accruals (DA). The maximum and minimum values of discretionary accruals are .89 and -.43. As it is seen that there are both positive and negative value of discretionary accruals so it is influencing earning management in both ways. The standard deviation of discretionary accruals is .34. In a study of Tunisia standard deviation for discretionary accruals .24 which is close up to the study (Inaam, Khmouddi and Fatma, 2012).

The mean of big 4 reveals that only 26% percent of study firms were represented by big 4 audit firms and 74% by non-big 4 firms. 0 .44 is the standard deviation for big 4.   The Tunisian study result shows 31% mean of big 4 and standard deviation of 0.46 which is close to the mean of the current study finds (Inaam, Khmouddi and Fatma, 2012). The maximum and minimum values of big 4 imply that the dummy variables- zero(0) and one (1)were used in measuring big 4 where audited by big 4 took one(1) and zero(0) if not. The table also shows 9% mean value of CRA which indicates that 90% study firms was concerned about credit rating. The standard deviation of CRA is .30. The maximum and minimum values of CRA indicate that the dummy variables- zero (0) and one (1) were used in measuring CRA where rated by Credit rating agency took one(1) if rated and zero(0) if not. The average value of total assets size is 9.58 which are close to the value of the research of Egypt during the period of 2012-2016. The Egypt study also finds mean value for client firm size 8.90 (Yasser and Soliman, 2018). Maximum and minimum value is of the total asset size is 10.66 and 8.25 correspondingly. The standard deviation of total asset size is .59 which is also close to the .71 standard deviation of the Egypt study (Yasser and Soliman, 2018). The averages of leverage of the companies are about 56% of total assets. Standard deviation of leverage is .28. The Tunisian study finds 45% leverage and standard deviation of 0.21 which are closer to the current study result (Inaam, Khmouddi and Fatma, 2012). Maximum and minimum of leverage is 1.73 and .077.

7.4 Correlation matrix

Table 4

Correlation matrix of Dependent and independent variables

	DA	AQ	CRA	Size	Leverage
DA	1.0000				
AQ	0.1738***	1.0000			
	0.0838				
CRA	0.1868***	0.1976**	1.0000		
	0.0628	0.0488			
Size	0.8237*	0.3010*	0.2217**	1.0000	
	0.0000	0.0023	0.0267		
Leverage	0.2641*	-0.0825	-0.2521**	0.1633	1.0000
	0.0079	0.4144	0.0114	0.1046	

*, ** and *** represents the 0.01, 0.05 and .10 level of significance respectively which indicates the correlation between independent variables.

The table-4 presents the correlation between both of the dependent and independent variables.

The result in table shows the Pearson correlation coefficient of variables used on the study. It is shown on the table that there is positive correlation of discretionary accruals with audit quality (Big 4), Credit rating and total asset size. Leverage is not associated with credit rating and audit quality (Big 4). There is higher correlation between total size and discretionary accruals 0.82. Moreover, there are no correlation coefficient higher than 0.90. When result gives the value more

than 0.90, it will called multivariate. In multivariate one independent variable influence other independent variable.

7.5 Regression analysis

Table 5

Results of regression

DA	Coef.	Std Err.	t	P>I t I	[95% Conf. Interval]	
AQbig4	.0420775	.0617955	0.68	0.498	-.080602	.164757
CRA	.0801136	.0958844	0.84	0.406	-.1102409	.2704682
Size	.3135084	.0479888	6.53	0.000	.2182386	.4087781
Leverage	.3907996	.0985638	3.96	0.000	.1951258	.5864735
_cons	-3.303565	.4430589	-7.46	0.000	-4.183148	-2.423982

The significant level for model is 0.0000 which indicates model is fit at 1% level. So the model is fit for the study. As the result of adjusted R square of the model is 0.3967, it indicates that independent variable (audit quality) has almost 40% ability of explaining dependent variable (earning management). According to the table-5, the value of Big 4 (Coefficient= .04, P>I t I= 0.50) indicates that there is insignificant relation between big 4 and discretionary accrual that means big 4 is unable to restrain earning management. The result is consistent with prior research of Yasser et al. 2018 who also finds an insignificant relationship between the audit firm size and discretionary accruals. The result also agrees with a result of Bangladesh which also shows of big 4 affiliates do not have any positive impact on accruals quality (Kabir, Sharma, Islam, Salat, 2011). Table 5 also shows that the value for credit rating

(coefficient = 0.08, P>I t I=0.41) indicates positive relation between discretionary accrual and credit rating which means credit rating increases earning management but it is not statistically significant.

Furthermore, the size and leverage have a significant positive influence on earning management which is supported by the earlier literature. The findings of Becker et al. 1998 reveal that total asset is positively related with discretionary accruals. The findings of Yasser et al. 2018 also show leverage is significantly and positively related with earrings management.
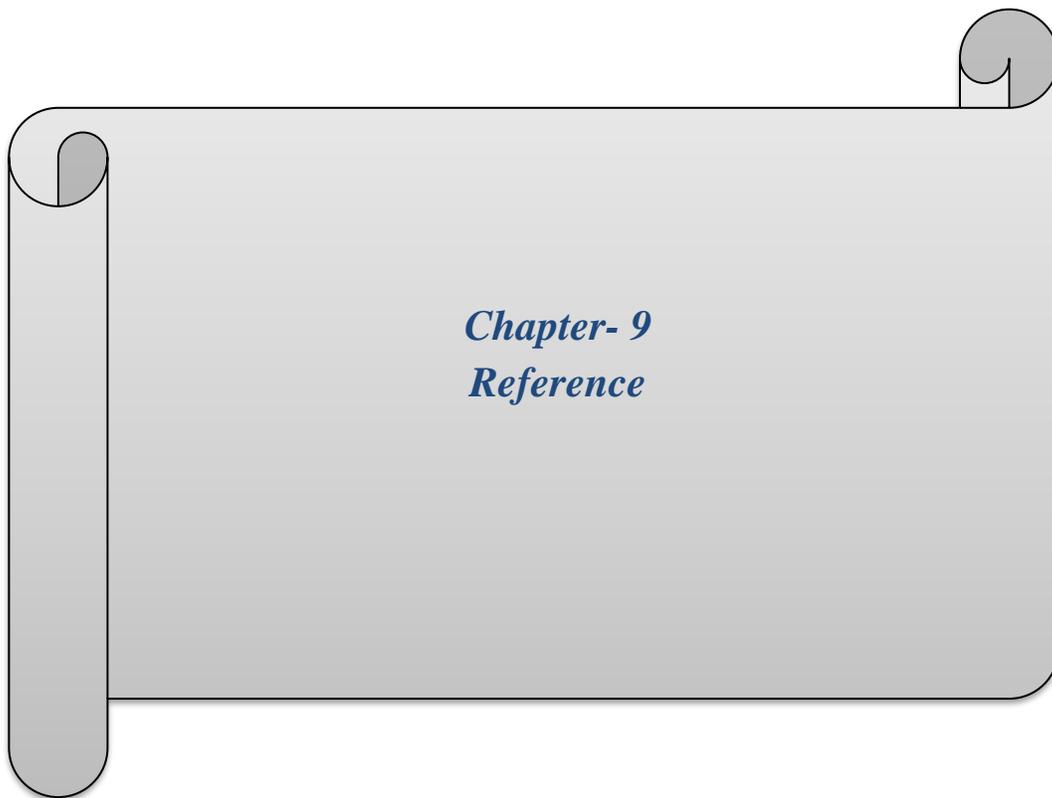
Chapter- 8
Conclusion
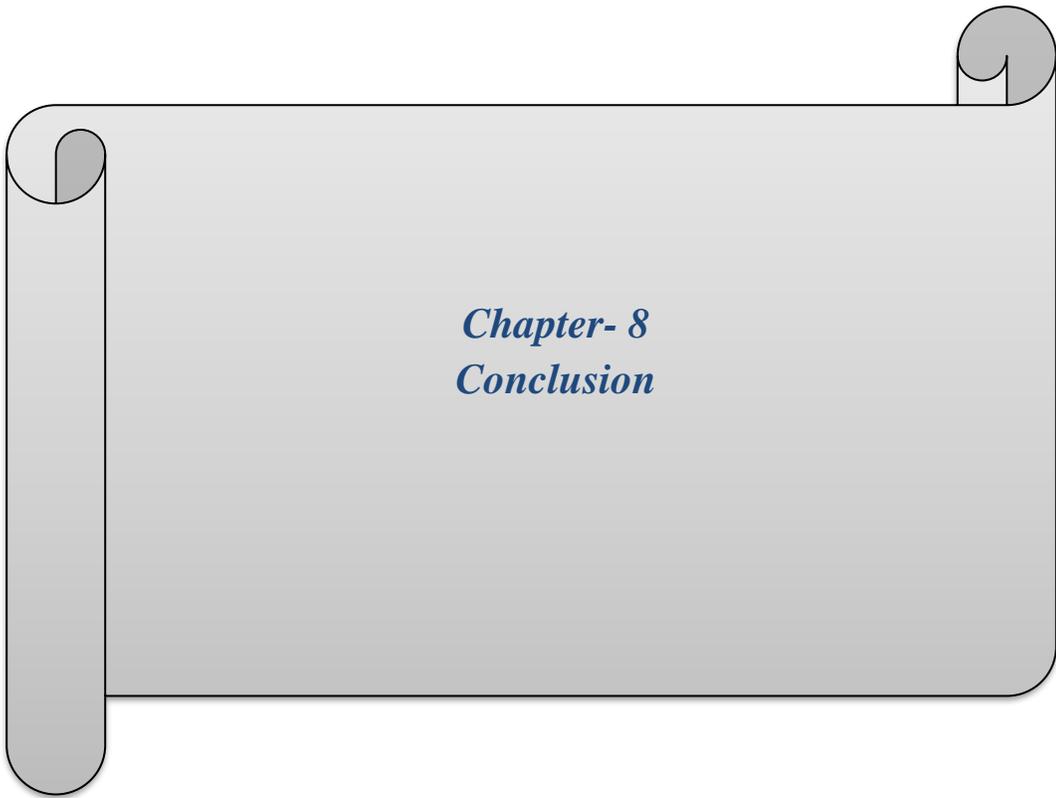
Chapter-8

Conclusion

The study was examined to know the effect of audit quality and credit rating on earning management in Bangladesh. Dhaka Stock Exchange listed engineering companies was used for sample. Audit quality (Big 4) and Credit rating was used as the independent variable. Earning management (discretionary accrual) was the dependent variable. For determining discretionary accruals Modified Jones model was used and OLS regression for panel dataset.

The result of the study reveals that audit quality has insignificant relation with earning management that means audit quality does not contribute in reducing earning management. The result also reveals insignificant positive relation between credit rating and earning management. Due to time limitation and incomplete financial data of some study firms, the study was conducted on small sample size. The study suggest further research can be conducted with large sample size such as- all listed companies of Bangladesh and other factors can also be considered that may influence earnings management.

Chapter- 9
Reference

Chapter-9

Reference

Abid, A., Shaique, M. and Haq, A. M. (2018). Do Big Four Auditors Always Provide Higher Audit Quality? Evidence from Pakistan. *International Journal of Financial Studies,* vol. 6(2), pages 1-22, *Research Journal of Finance and Accounting,* Vol.7, No.8, 2016.

Ahmad, L., Suhara, E., and Ilyas, Y. (2016). The Effect of Audit Quality on Earning Management within Manufacturing Companies Listed on Indonesian Stock Exchange.

Ali, A., & Zhang, W., (2008) Proximity to Broad Credit Rating Change and Earnings

Management. . Retrieved from, https://ssrn.com/abstract=1163003.

Alissa, W., Bonsall, S. B., Koharki, K., & Penn, M. W. (2013). Firms' use of accounting discretion to influence their credit ratings. *Journal of Accounting and Economics,* 129-147.

Becker, C.L., DeFond, M.L., Jiambalvo, J. and Subramanyam,(K.R., 1998). The effect of audit quality on earnings management. *Contemporary accounting research*, 15(1), pp.1-24.

Bouwens, V.(2017). Credit Ratings and Earnings Management in the European Market. Google Scholar Ph.D/ADMIN/37409/2012-2013

DeAngelo, L.E, 1981. Auditor size and audit quality. *Journal of Accounting and Economics*, 3 (3), 183-199.

Dechow, P. M. and Skinner, D. J., (2000). Earnings Management: Reconciling the Views of Accounting Academics, Practitioners, and Regulators. *Accounting Horizons*, 14(2), pp. 235-250.

Dechow, P.M., R.G. Sloan & A.P. Sweeney. (1995). Detecting Earnings Management, The Accounting Review, 70, 193-225.

Frost, C. A. (2007). Credit rating agencies in capital markets: A review of research evidence on selected criticisms of the agencies. *Journal of Accounting, Auditing and Finance*, 469-492.

Gounopoulos, D. and Pham, H. (2016). Credit Ratings and Earnings Management around IPOs. *Journal of Business Finance & Accounting,* DOI: 10.1111/jbfa.12228

Hasan, R. M. (2018). Factors Influencing Audit Quality in Bangladesh. The following website was accessed: http://hdl.handle.net/10361/11022

Healy, P.M. & Wahlen, J.M. (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons*, Vol: 13. No: 4. pp. 365-383, doi: 10.2308/acch.1999.13.4.365

Inaam, Z., Khmoussi, L., and Fatma, Z., (2012). Audit Quality and Earnings Management in the Tunisian Context. *International Journal of Accounting and Financial Reporting,* Vol. 2, No. 2, DOI: 10.5296/ijafr.v2i2.2065

Jaggi, B. and Lee, P. (2002). Covenant Violations and Debt Restructuring. Journal of Accounting, Auditing & Finance, 17, 295-324.

John, R.J. (2016). Corporate Credit Ratings, Earnings Management and the passage of SOx and Dodd-Frank. *Economics*. The following website was accessed: http://hdl.handle.net/2105/37781

Kabir, H. M., Sharma,D., Islam, A. M. and Salat, A. (2011). Big 4 auditor affiliation and accruals quality in Bangladesh. *Managerial Auditing Journal*, Vol. 26 No. 2, pp. 161-181. doi: 10.1108/02686901111095029

Kisgen, D. J. (2006). Credit ratings and capital structure. *The Journal of Finance,* 1035-1072.

Kitiwong, w. (2014). Earnings management and audit quality: evidence from southeast asia. The following website was accessed: https://www.semanticscholar.org/paper/Earnings-Management-and-Audit-Quality%3A-Evidence Kitiwong/6545179516724d69d301bdac9a559462e07797e4

Lopes, P. A., (2018). Audit Quality and Earnings Management: Evidence from Portugal. *Athens Journal of Business & Economics,* Volume 4, Issue 2 – Pages 179-192

MALI, Dafydd and JONG-SEO, Choi (2016). Does earnings management influence credit rating changes in subsequent periods?: An analysis of KRX firms. *Korea International Accounting Review*, 2016 (67), 1-22.

Mousawi, J.R. and Thuneibat, A., (2011). The Effect of Audit Quality on the Earnings Management Activities. *Administrative Sciences,* Volume 38, No. 2

Muttakin. B. M., Khan, A. and Mihret, D. (2017), "Business group affiliation, earnings management and audit quality: evidence from Bangladesh", *Managerial Auditing Journal*, Vol. 32 No. 4/5, pp. 427-444. DOI: 10.1108/MAJ-01-2016-1310

Octaviani, M. (2017). The Effect of Audit Quality with Earning Management as an Intervening Variable on Earning Quality.

Sumiadji, Chandrarin, G. and Subiyantoro, E. (2019). Effect of Audit Quality on Earnings Quality: Evidence from Indonesia Stock Exchange. *International Journal of Financial Research,* Vol. 10, No. 1; 2019, DOI:10.5430/ijfr.v10n1p86

The following website was accessed on August 30, 2019:
https://lankabd.com/Company/OverviewV2?symbol=AFTABAUTO

The following website was accessed on August 30, 2019:
https://www.aftabautomobiles.com/2018/08/17/aftab/

The following website was accessed on August 30, 2019: https://bbspeb.com/

The following website was accessed on August 30, 2019:
https://lankabd.com/Company/OverviewV2?symbol=BBS

The following website was accessed on August 30, 2019: https://bsrm.com/about-us/history/

The following website was accessed on August 30, 2019:
https://lankabd.com/Company/OverviewV2?symbol=BSRMSTEEL

The following website was accessed on August 30, 2019: https://www.ifadautos.com/about-us/

The following website was accessed on August 30, 2019:
https://lankabd.com/Company/OverviewV2?symbol=IFADAUTOS

The following website was accessed on August 30, 2019:
http://www.rangpurfoundry.com/aboutus.php

The following website was accessed on August 30, 2019:
http://www.quasemindustries.com/PageContent.aspx?ID=1#.XWfwpegzaUk

The following website was accessed on August 30, 2019: http://www.wms.com.bd/about-us/

The following website was accessed on August 30, 2019: https://www.academia.edu/22077448/Credit_Rating_and_Industry_Analysis_of_Bangladesh_Part-1_Credit_rating

Titman S, Trueman B. (1986). Information quality and the valuation of new issues. *J. Account. Econ.,* 8 (2): 159-172.

Tyokoso, M.G. (2017). Effects of audit quality on earnings management of listed oil marketing companies in Nigeria.

Yaşar, A(2013). Big Four Auditors' Audit Quality and Earnings Management: Evidence from Turkish Stock Market. *International Journal of Business and Social Science,* Vol. 4 No. 17

Yasser, S. Soliman, M., (2018), The effect of Audit Quality on Earnings Management in Developing Countries: The Case of Egypt. *International Research Journal of Applied Finance,* Vol. IX Issue – 4 April, 2018
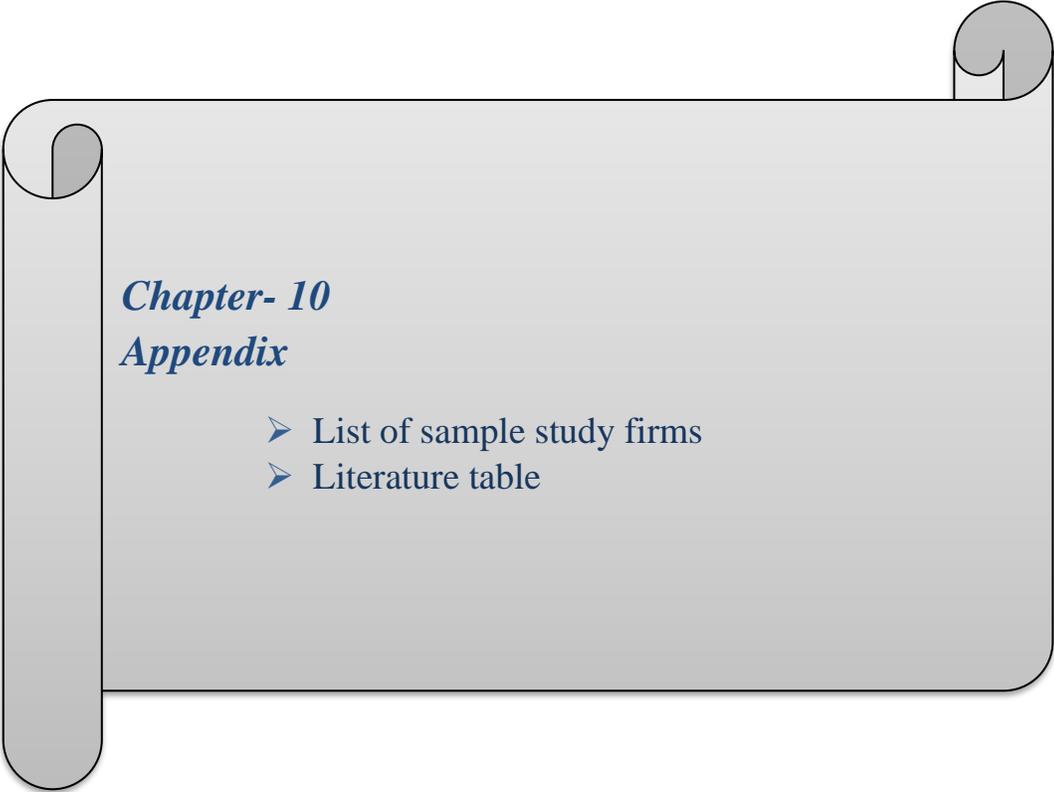
Chapter- 10
Appendix

- ➤ List of sample study firms
- ➤ Literature table

Chapter-10

Appendix

For sampling purpose 20 Dhaka Stock Exchange (DSE) listed Engineering companies was used among 38 companies. The remaining companies were excluded because of unavailable of proper information.

List of sample study firms

- Aftab Automobiles Limited
- Anwar Galvanizing Ltd.
- Aziz Pipes Ltd.
- Bangladesh Building Systems Ltd.
- Bangladesh Lamps Limited
- Bd.Thai Aluminium Ltd.
- Bangladesh Steel Re-Rolling Mills Limited
- BSRM Steels Limited
- Bengal Windsor Thermoplastics Ltd.
- Deshbandhu Polymer Limited
- Golden Son Ltd.
- GPH Ispat Ltd.
- IFAD Autos Limited
- Navana CNG Limited
- National Polymer Industries Ltd.
- Quasem Industries Ltd.
- Rangpur Foundry Ltd.
- Ratanpur Steel Re-Rolling Mills Limited
- Singer Bangladesh Limited
- Western Marine Shipyard Limited

Literature table

Title, Year and Author	Objective	Methodology	Findings
The Effect of Audit Quality on Earnings Management (Connie L. Becker, Mark L. Defond, James Jiambalvo and K.R. Subramanyam , 1998)	to examine that big Six auditors are of higher quality than non-Big Six auditors.	Proxies: discretionary accruals, Big Six Sample: 10,379 Big Six and 2,179 non-Big Six firm Model: cross-sectional variation of the Jones 1991 accruals estimation model	The discretionary accruals of firms with non-Big Six auditors are higher than the discretionary accruals of firms with Big Six auditors.
Big Four Auditors' Audit Quality and Earnings Management: Evidence from Turkish Stock Market (Alpaslan Yaşar and Osmaniye Korkut , 2013)	to therefore, to assess the effect of audit quality on earnings management by focusing on Turkish case	Proxies: discretionary accruals, audit firm size Sample: manufacturing industry firms listed on Istanbul Stock Exchange (ISE) for the years 2003-2007. Model: pooled cross-sectional variation of the Modifed Jones Model	There is no difference in audit quality between Big Four and non-Big Four audit firms for restriction of earnings management in Turkey
The Effect of Audit Quality on Earning Management within Manufacturing Companies Listed on Indonesian Stock	How managers of manufacturing companies listed on Indonesia Stock Exchange engage in earning	Proxies: discretionary accruals, audit firm size and industry specialist auditors Sample: listed manufacturing	The results showed that audit quality and earning management are negatively related.

Exchange (Lukman Ahmad, Edi Suhara and YusriIlyas, 2016)	management	companies on the Indonesia Stock Exchange; 420 firm observations from 2010 to 2013 Model: pooled cross-sectional variation of the Modified Jones model	
Audit Quality and Earnings Management: Evidence from Portugal (Ana Paula Lopes, 2018)	to examine if there is a relationship between the manipulation of results and the quality of the audit	Proxies: discretionary accruals, firm size, debt, volume business and profitability Sample: SABI (Iberian Balance sheet Analysis System) database:4723 companies from 2013 to 2015 Model: Modified Jones Model.	Compared to non-Big 4, Big 4, audit firm have results lower earning management
The Effect of Audit Quality on Earnings Management in Developing Countries: The Case of Egypt (Sarah Yasser, Arab Mohammed and Soliman Soliman, 2018)	to examine the effect of Audit quality on Earnings Management in the listed firms in Egypt	Proxies : discretionary accruals, Audit firm size, auditor industry specialization and auditor tenure Sample: listed firms in Egypt during 2012-2016 Model: Modified Jones Model.	Audit firm size, auditor industry specialization have an insignificant and auditor tenure has a significant positive relationship with earnings management
Big 4 auditor affiliation	to examine the	Proxies : absolute	Big 4 affiliates do

and accruals quality in Bangladesh (M. Humayun Kabir, Divesh Sharma, Md Ainul Islam, Amirus Salat, 2011)	association between Big 4 affiliated auditors and accruals quality in Bangladesh.	discretionary accruals and signed discretionary accruals, auditor size Sample: The sample is DSE listed 382 firm-year observations from 2000-2003. Model: OLS regression	not have a positive impact on accruals quality of their clients in Bangladesh.
Business group affiliation, earnings management and audit quality: evidence from Bangladesh (Mohammad Badrul Muttakin, Arifur Khan, Dessalegn Getie Mihret, 2017)	to investigate the moderating role of audit quality on the association between business group affiliation of firms and earnings management in the South Asian emerging economy of Bangladesh	Proxies: discretionary accruals, auditor size and industry specialization. Sample: 917 firm-year observations were drawn from companies listed on the Dhaka Stock Exchange from 2005 to 2013.	Audit quality helps in improving earning quality in environment lacking strong investor protection for group affiliated firms
Credit Ratings and Earnings Management in the European Market (Vincent Bouwens, 2017)	to what extent managers of European firms attempt to improve their credit risk rating through earnings management.	Proxies: discretionary accruals and conservatism in reported earnings Sample: The sample consists of 599 firms over the period 1996-2016 in eighteen different countries Model: modified Jones	The results show an existence of earnings management for firms near a broad rating downgrade, and no evidence for the existence of earnings management for

		model (1991), the Basu model (1997) and the Ball and Shivakumar model (2005)	firms near a broad rating upgrade and micro rating change.
Does Earnings Management Influence Credit Rating Changes in Subsequent Periods?: An Analysis of KRX Firms (Mali Dafydd, Choi Jong-seo, 2016)	to examine the influence of earnings management on credit rating changes in subsequent periods	Proxies: Real and accrual earning management. Sample: sample of 1,481 observations from 2002 to 2013 Model: Dechow et al. model (1995) and Kothari's (2005) model	Negative association with abnormal accruals and credit rating and a positive association between REM.
Credit Ratings and Earnings Management around IPOs (Dimitrios Gounopoulos, Hang Pham, 2016)	to examines the impact of having a credit rating on earnings management (EM) through accruals and real activities manipulation by initial public offering (IPO) firms.	Proxies: accrual-based and real earnings management Sample: U.S. common share IPOs during the period 1991, to 2011, from the Securities Data Corporation (SDC) New Issues database. Model: modified Jones (1991) and Roychowdhury (2006) model	We find a negative association between rating existence and income-increasing accrual-based and real EM in the offering year. Rating levels, however, are not significantly related to at-issue EM.