

IMPACT OF WORKING CAPITAL EFFICIENCY ON PROFITABILITY IN BANGLADESHI AGRIBUSINESS

Northern Grainland Ltd.

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Submitted in Partial Fulfillment of the Requirements for the Degree
Bachelor of Business Administration



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Internship Report Approval Form

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INTERNSHIP/PROJECT INFORMATION

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SUPERVISOR APPROVAL

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☐ Approved ☐ Not Approved ☐ Partial Re-write ☐ Full Re-write

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Letter of Transmittal

Date:

Naima Khatun

Faculty Supervisor

ULAB School of Business

University of Liberal Arts Bangladesh (ULAB)

Subject: Internship Report Submission

Dear Madam,

I am submitting my internship research report titled "Impact of Working Capital Efficiency on Profitability in Bangladeshi Agribusiness" as part of the BUS499 Internship course for my Bachelor of Business Administration degree at the University of Liberal Arts Bangladesh. This report is based on my three-month internship at Northern Grainland Ltd. and examines how working capital efficiency relates to the profitability of agribusiness firms in Bangladesh, combining my theoretical knowledge with practical industry experience.

I am grateful for your guidance and support throughout the process, which helped me approach the subject more carefully and deepened my understanding of financial management in the agribusiness sector. I trust this report meets your expectations and the academic requirements of the internship program, and I respectfully request your review and acceptance of this submission.

Thank you for all your time, advice and teaching.

Sincerely,

Md Zahidul Haque

ID: 221011001

School of Business, ULAB

Acknowledgement

First and foremost, all praise belongs to Almighty Allah (SWT). Without His guidance and the clarity He gave me during moments of doubt, I would not have had the patience or the focus to see this internship through, let alone produce a report from it.

I am deeply grateful to my academic supervisor, Ms. Naima Khatun, whose direction shaped this research from the very beginning. Her feedback consistently pushed me to move beyond surface-level thinking and engage seriously with the financial data in front of me. I also want to extend my sincere thanks to Dr. Shamsuddin Ahamad, whose guidance throughout the writing of this research paper was genuinely valuable. He took the time to point me in the right direction whenever I needed it, and his input helped me put together a more grounded and coherent piece of work. I am also thankful to the broader faculty of ULAB School of Business whose classes, sometimes without me realising it at the time, built the foundation I drew on throughout this work.

My sincere gratitude goes to Northern Grainland Ltd. for welcoming me as an Accounts and Finance Intern and giving me real exposure to how working capital decisions are made and managed in an active agribusiness operation. The people I worked alongside were patient, willing to explain things, and genuinely supportive of my learning. That environment made it possible for me to connect what I had studied in class to what I was witnessing in practice every day. Finally, to my family and friends, your encouragement carried me through more than you probably know.

Part-A

Chapter 1: Internship Preparation

1.1 Motivation for the Internship

Toward the end of my undergrad, I started feeling some career pressure creeping in. Being a student of accounting, I desired to experience the practical side of accounting rather than in the books or case studies. I certainly had an interest in such corporate and accounting positions as a number of my fellow students, but I also had a sense that wherever I began, I wanted it to be a place I was really interested in and felt somewhat personal.

I wasted a lot of time trying to get such an opportunity by myself. I have looked at LinkedIn and Bdjobs, and I also got a couple of calls in the ULAB Career Services Office regarding internships. However, the majority of the roles were not very related to me. They seemed very clichéd or not exactly what I wanted. In the long run, this began to frustrate me as I was yet to determine what type of work I would like to perform and what I would fit in.

It was at that point that I began to consider more seriously what felt natural to me. I have always lived on the campus of Sher-e-Bangla Agricultural University where my father was employed; therefore, I was always surrounded by that environment. The fields, the study work, the people movement, it all was familiar as a growing up. In retrospect, that was with me longer than I thought. When I read about Northern Grainland Ltd. on the recommendation of a mutual acquaintance of my brother it all made sense. It was an accountancy job, which I desired, but in an agribusiness environment that I already felt at home in. Such combination attracted me more than a regular job in an office. I then sent my CV to Azim Ahmed Mustafa, Head of Admin and HR, via his WhatsApp and after approximately one week, I got a call to come to their office in Mirpur, they wanted to interview me.

1.2 Internship Search Process

The internship search process commenced by updating the existing CV and actively searching existing opportunities. I was also frequently checking LinkedIn and Bdjobs to get the postings, and Facebook groups where internships were frequently posted. Moreover, I maintained contact with the ULAB Career Services Office and was contacted by a few internship calls via the office. The roles I was interested in were mainly those related to accounting, especially in corporate environments where I would be able to have a hands-on experience.

I did most of the searching alone without having to use referrals or my connections to a great extent. During several weeks, I analyzed and evaluated various opportunities in various platforms. Nevertheless, most of the jobs would not fit my interests or seem to provide insufficient opportunities to engage in practical learning. This necessitated screening through the options instead of using them indiscriminately since I wanted to get a position that would give me relevant experience in the accounting functions.

In the process, I was concentrated on finding a position that was not only befitting my academic qualifications but also my learning requirements. Finally, I got an opportunity in Northern Grainland Ltd. as an accounts internship, through a mutual contact that was made by my brother. The job was within my field of interest and seemed to be a good exposure. I left my CV through WhatsApp to Azim Ahmed Mustafa, Head of Admin and HR. About seven days after that, I got a call in which they asked me to have an interview with them at their Mirpur office.

1.3 Interview Experience

Interview at the Northern Grainland Ltd. was conducted at their office in the Mirpur locality, after a call that I received after a week of sending my CV. The interview was planned beforehand and I ensured that I was punctual, carried a print copy of my resume and had a basic understanding of my accounting basics.

Azim Ahmed Mustafa, Head of Admin and HR conducted the interview. It started with some general introductory questions like, Tell me about yourself, which enabled me to briefly describe my academic background and passion in accounting. Thence the talk shifted to more useful matters in my knowledge. I was questioned regarding my knowledge of the fundamental accounting concepts, such as journal entries, financial statements, and my level of comfort in working on the accounting-related tasks.

Besides technical questions, the interviewer also questioned my exposure to some tools like Microsoft Excel, especially those functions that are frequently employed in accounting practice. Some of the other questions were also connected with my approach to learning new tasks and my adjustment to a working environment. The interview was well organized and aimed at assessing my level of academic knowledge as well as my willingness to work in an accounts position.

The interview was generally not complicated and corresponded to the duties of the internship job. It gave me a chance to share what I knew about the concepts of accounting as well as show my readiness to study and work in a real environment.

1.4 About the Organization

Northern Grainland Ltd. is a modern integrated agribusiness company with head office situated in Mirpur, Dhaka, Bangladesh, regional offices in Rajshahi and Chittagong. The company has three business fundamental functions that run across the entire agricultural value chain namely supply chain and trading solutions, systematic agriculture and beef processing and supply. It aims to combine trading, supply chain, and systematic agriculture to produce and distribute efficiently and sustainably perishable and non-perishable products at the local and global levels.

The supply chain and trading arm has a broad spectrum of customers such as farmers, manufacturers, distributors, wholesalers, retailers and grocery chains. The company aims at minimizing waste and enhancing market accessibility through its entire product line through dual-mode logistics, real-time tracking and a digital marketplace. The systematic agriculture division works on both the company owned farms and the smallholders in the northern parts of Bangladesh, where precision technology and climate resistant farming methods are utilized in order to sustain crop production in different environments.

The beef processing and supply unit caters to local wholesalers, supermarkets, hotels, and restaurants, as well as global buyers with customizable and food-safety-compliant beef produced in a special facility. The company is keen on sustainable sourcing, food safety compliance, and minimizing post-harvest losses across all three divisions in the course of its supply chain operations.

Chapter 2:

About the Internship

2.1 Job Position and Responsibility

I had a three month experience with the Finance department of Northern Grainland Ltd. under Eastiak Ahmed, the Head of Finance. A lot of what I did was paperwork, recording of transactions and the minor compliance-related aspects that are usually ignored in the day-to-day running of the financial activities. Most of the tasks were able to be considered as routine yet I soon realised the weight attached to them in terms of financial transparency and regulatory accountability. Everything in an agribusiness company that has several divisions to deal with is not paper work. Each entry, each voucher, each document placed on file, has got a relation to a greater context of how the business places itself in the line.

My first few weeks were in the preparation of vouchers and recording of daily transactions. All money transfers and cash transactions were supposed to be registered with a relevant voucher, accompanied by receipts and invoices. I was taught to reconcile entries with the source documents in order to ensure that postings were correct before being passed through the rest of the reporting process.

I also had to prepare and verify Mushak challans received by the NBR, to sort them in chronological order by challan number, date of payment and amount in each reporting period. Together with this, I used to balance bank transactions with such challans, ensuring that the payments had been made in the right bank accounts in the company. This piece of work, which is very detailed, did teach me some form of procedural discipline, which I did not truly value until I was doing it on a regular basis.

The other aspect of my duties was the generation of invoices and their management. I was able to understand the differences between a commercial and a tax invoice, the importance of keeping a copy of one in order to maintain audit trails, and assisted in submitting invoices and receiving confirmation of payment to various companies on a monthly basis. I have helped to prepare audit files a couple of times, which provided me with the understanding that all financial activities leave a paper trail, and that trail should be sorted and made available.

Some KYC-related work was also done towards the end of my internship, with filling in the necessary documentation, and getting a better understanding of why such measures are necessary, not merely as a regulatory formality, but as a means of introducing transparency into the financial system.

All this provided me with a realistic view of how accounting work really appears in the workplaces. It is tedious, highly procedural and legalistic and it is at that foundation that enables more advanced financial operations to exist, at least initially.

2.2 Takeaway from this Position

During my internship at Northern Grainland Ltd. I started to feel Accounting finally is something to be practiced rather than reading about it. Items that had been theoretical in the classroom now were accompanied by real consequences. Any mismatched voucher may upset a reconciliation. It was important to me to know that I was different in how I dealt with the work. I no longer considered things as something to accomplish but something to do well as in a company like this with multiple divisions, in terms of trading, agriculture and beef production, there is indeed very little space to allow mistakes to be made carelessly.

One of the most useful things that I have learned was a better insight into how a proper documentation cycle works, how data is collected, verified, documented and stored in a manner that can be tracked by another individual in the future. My perception has always been that speed was an indicator of capability in accounting. What I learned was that speed is of no good whatsoever when records that follow it are ambiguous or unclear. I continued with that attitude of change in the internship. The system of drawing up vouchers each day, of reconciling all bank transfers and payments in cash with the records of their source, and of sorting Mushak challans by number, date, and amount, were not pleasant tasks, but they trained me up to a discipline in work which I had never acquired by attending a lecture. I also got to learn the importance of Northern Grainland taking its in-house deadlines seriously. The reality that not filing or reconciling would have real consequences later on down the line and the insight that compliance culture in the workplace made me appreciate the fact that it was important in the first place.

Bank reconciliations in different accounts, assisting in the preparation and management of invoices, the distinction between commercial and tax invoice, maintenance of audit trails, and sometimes assisting in the preparation of audit files, made me understand that all financial affairs leave a track and that track needs to be systematized, accessible and easy to track at any point in time. It was a reinforcement of the same idea in a different form that transparency is not only a rule you follow but also a part of the way responsible organizations are managed that I was working on at the end of my internship on the KYC project.

2.3 Relationship between Educational Learning and Internship Roles

This internship offered me a good experience to mix my academic knowledge in a financial setting in the real world. My theoretical knowledge acquired during Principles of Accounting, Financial Accounting and Managerial Accounting courses, provided the basis of my work experience as an Accounts and Finance Intern at Northern Grainland Ltd. Handling financial records, vouchers, and entry of transaction, I could see how the basic accounting principles such as the double entry system and accrual basis are put into practice.

My Cost Accounting knowledge enabled me to know how the company classifies and controls various kinds of expenses in its agribusiness operations. The expenses associated with procurement, logistics and operational activities might be associated with the classifications I have learned in school. This helped me to have a better insight on the role of cost control in profitability, which is directly applicable to my study of working capital efficiency.

Another course, the Accounting Information Systems, was also beneficial in my internship. The company uses well-organized digital solutions to document and process financial information. My previous knowledge in system based accounting and data processing orderlied assisted me in tracking the manner in which financial data are kept in the right direction and in a manner that is consistent across the departments.

Moreover, Auditing and Assurance concepts were also echoed in the operations of verifying and documenting the financial records. Internal control practices which I could identify with include keeping supporting documents, authorization and cross checking of entries. The observation of these processes assisted me in the realization of how they were used to keep transparency and reduce errors.

Other courses such as Business Communication and Organizational Behavior also helped me in my experience. The ability to communicate was also critical in the provision of information in a clear and concise manner whereas the concepts of organizational behavior enabled me to comprehend the concept of teamwork and coordination in the company. I also noted the different departments collaborating with one another to make financial and operational activities run smoothly.

Chapter 3:

Personal Development Goals

3.1 Short-Term Goals:

After my internship experience at Northern Grainland Ltd., my first objective is to keep on enhancing the practical knowledge and skills that I have acquired throughout this time. The internship also helped me to understand that learning is not limited to academic studies but is more significant when it is put into practice in practice. Over the next year or two, I will work on enhancing my knowledge about accounting basics, financial analysis, and managing working capital, which are directly relevant to my internship and research topic.

Another area of improvement I wish to improve is on the technical skill especially on Microsoft Excel. However, although I have already learnt some functions, data organization, and a basic analysis, I would like to have a more profound grasp of more sophisticated tools, such as pivot tables, data visualization, and financial modeling. The skills will be crucial to analyze financial data effectively and make wise decisions in the workplace.

I will also be studying and practicing accounting software such as Tally, quick books or any other ERP software. At the internship, I have seen the use of digital systems in keeping financial records and I know why I have to be at ease with such systems. Mastering the skills of using them will enable me to be flexible in different organizational environments and be more effective in performing accounting activities.

The other objective is to enhance my communication skills especially in professional writing and reporting. It is a critical skill to any financial professional, as clarity and conciseness of financial information are important. I will practice them to enhance my organization of the report, summary of key findings, and effective communication with colleagues and supervisors.

Lastly, I will make a habit of lifelong learning and discipline. I will participate in self-study, online and hands-on practices to keep abreast with the changing accounting practices and methods of financial management.

3.2 Long-Term Goals:

My long-term vision is to be a qualified and ethical professional in accounting and finance, who will be able to make a contribution to the success of the organization. Within three to five years, I will seek to acquire a professional qualification that is internationally recognized like ACCA or CA, which would also enable me to develop a solid professional base and open numerous career prospects locally and internationally.

I also want to develop into the position that will have more responsibility such as financial analysis, auditing, or corporate finance. Through experience, I will be able to acquire leadership skills which will enable me to lead, direct finances and be involved in making strategic decisions in an organization.

In addition, I would also like to have a glimpse of various industries and organizational designs, particularly in industries such as agribusiness, where financial management is very important. This will assist me to become a balanced professional with a wide view of business environments.

In addition to professional achievement, I want to put effort in personal development and be disciplined, flexible, and focused on the endless improvement. I think these attributes can enable me to have a long-term and a purposeful career in accounting and finance.

3.3 Technical Skills:

The experience from my internship in Northern Grainland Ltd. helped me understand the significance of keeping pace with the changing technical aspect of accounting and finance. I would like to be very efficient in an accounting software like Tally ERP, QuickBooks and other ERP based systems. These tools are important in ensuring that there is accuracy in financial records, minimization of errors due to manual processes, and efficiency in the day to day accounting activities.

I would also like to acquire good skills in Microsoft Excel. Although my foundation is simple, I am seeking to develop my skills on how to use pivot tables, data analysis, financial modeling and data visualization. The ability to work with huge volumes of financial information effectively will assist me in making superior choices and working more productively in a business environment.

The other field that I would like to be involved in is financial analysis and working capital management. I am interested in learning more about the influence of financial ratios and cash flow and operational choices on the overall profitability since my internship and research are closely related to this area. Also, I would like to learn how to use such tools as Power BI or other similar sites to show financial data in an understandable and significant manner.

I am also interested in gaining a better understanding of internal control systems and auditing practices. My experience with these processes as an intern demonstrated that accuracy, transparency and accountability are important in ensuring financial integrity in an organization.

3.4 Soft Skills:

In addition to technical development, I would like to constantly work on my soft skills, also significant in a professional setting. Communication is one of the areas that I would like to improve. Effective teamwork and decision making requires clear and understandable explanation of financial information, whether it is in written reports or oral discussions.

Other skills that I would like to develop include time management and organization. As an intern, I learned the need to be task-oriented and very disciplined in dealing with various duties. By enhancing these abilities, I will be able to remain productive and achieve deadlines without the needless stress.

Finally, I would like to be more flexible and enhance my problem solving skills. The workplace is a very random place to work in and the capacity to remain composed, think rationally and react positively is an asset. Another trait that I would wish to attain over time is the quality of leadership through being supportive, responsible and have the desire to learn (through others).

Part-B

Chapter 1: Internship Research

Research Topic:

“Impact of Working Capital Efficiency on Profitability in Bangladeshi Agribusiness”

Executive Summary

This paper will look at the connection between working capital efficiency and profitability of four agribusiness companies listed in the Dhaka Stock Exchange: Agricultural Marketing Company Limited (AMCL/PRAN), Index Agro industries Limited, Golden Harvest Agro industries Limited and Krishibid seed limited. Each of the selected firms includes four fiscal years (2022 to 2025) in the study, resulting in 16 firm-year observations that are solely based on audited annual reports.

The efficiency of working capital is determined by cash conversion cycle and three components underlying the cycle, inventory days, receivables days and payables days in addition to the current ratio and the quick ratio as other indicators of liquidity. Profitability is evaluated using gross profit margin, operating profit margin, return on assets and return on equity. The regression models incorporate two control variables, namely, the size of firms and the debt ratio. The study is guided by three hypotheses, namely: working capital efficiency is significantly related to profitability, the cash conversion cycle is negatively related to profitability, and current and quick ratios are positively related to profitability.

The analysis will be carried out in four phases. All the indicators of the financial statements are calculated by ratio analysis. The data is then summarized by descriptive statistics in years, and across firms. The Pearson correlation analysis will test the direction and the strength of the relationship between the working capital indicators and profitability measures. Lastly, four normal least squares regression models are estimated as with each measure of profitability, the cash conversion cycle, the liquidity and control variables are used as predictors.

Correlation results indicate a strong, statistically significant relationship between the cash conversion cycle and the return-based measure of profitability with the relationship direction varying depending on the profitability measure used. The regression findings reveal that cash conversion cycle is the strongest predictor of both return on assets and return on equity and neither of the liquidity ratios has independent explanatory power in any of the models. The two hypotheses at the first and second level are supported regarding the measures of profitability that are based on returns. The hypothesis 3 does not have any support in the data.

Chapter 1: Introduction

1.1 Background of the Study

The agribusiness sector in Bangladesh is one of the most significant components of the national economy, providing GDP, employment, and food security to more than 170 million people. The industry will cut across crop production, livestock production, fish farming, food processing and distribution channels that link farmers in the rural areas with urban consumers. Integrated value chain Major listed companies, including Agricultural Marketing Company Limited, Golden Harvest Agro Industries Limited, Index Agro Industries Limited, and Krishibid Seed Limited, serve between millions of consumers, thousands of farmers and distributors.

The distinguishing feature of agribusiness in terms of financial aspects is the type of goods. Companies are handling perishable goods that are sensitive to storage, handling and transportation environment. Bangladesh is a country that yields an annual agricultural production of more than 93 million tonnes but the country estimates that it loses 2.4 billion dollars annually due to the wastage of it after harvesting and about 20-44 percent of the fruits and vegetables never reach the consumer. In the case of agribusiness companies this waste is a direct financial loss, as inventory investment that is not turned into sales lowers levels of profitability and puts a strain on cash flow.

Agribusiness companies are also subjected to a constant financial strain on various fronts. Global commodity shocks and depreciating currencies have increased input prices drastically, competition is forcing companies to provide credit to distributors and retailers, and suppliers tend to require payments within a short period of time. The net impact is a lengthening cash conversion cycle that places a lot of stress on the daily monetary activities.

In this kind of environment working capital management has turned out to be a burning issue at the agribusiness firms in Bangladesh. Research on the wider manufacturing industry of Bangladesh has repeatedly reported that companies with shorter cash conversion cycles have a better reported profitability (Quayyum, 2011; Hossain, 2020; Karim et al., 2023). Nevertheless, none of these works has dwelled specifically on agribusiness firms and the special nature of this industry implies that specific sector-based research is not only appropriate but also required.

1.2 Problem Statement

Bangladesh's agribusiness firms face a combination of pressures that make working capital management particularly difficult. Post-harvest losses, fluctuation in input prices, long credit terms to customers and short payment periods with suppliers all combine to lengthen the cash conversion cycle and place a steady strain on profitability. Nonetheless, the majority of current studies related to the management of working capital in Bangladesh involve the general manufacturing industry and considers agribusiness companies as a mere statistic, rather than considering them individually.

Research by Quayyum (2011), Hossain (2020), and Karim et al. (2023) determined that shorter cash conversion cycles were associated with greater profitability in general manufacturing sectors, however none of them specifically tested an agribusiness sector to determine whether a similar relationship was present in an environment characterized by perishability and seasonal demand, as well as complicated supply chains. Consequently, agribusiness managers and investors in Bangladesh lack sector specific, data-driven evidence, which they can use to make working capital decisions. This research fills that gap directly, by using working capital efficiency indicators on four listed agribusiness firms across a four-year period, and generates evidence that is both sector specific and based on the Bangladeshi context.

1.3 Research Questions

The study will be conducted based on the following questions:

1. What is the relationship between working capital indicators and profitability measures based on secondary financial data?
2. Do firms with more efficient working capital profiles exhibit consistently higher profitability, and what implications does this relationship have for working capital management in the Bangladeshi agribusiness sector?

1.4 Research Hypothesis

H1: Working capital efficiency is significantly associated with profitability.

H2: Cash conversion cycle is negatively associated with profitability.

H3: Current ratio and quick ratio are positively associated with profitability.

1.5 Significance of the Study

This research is important to various categories of people, each in a different way.

To agribusiness managers, the results present industry-specific data on the working capital indicators that have the most significant impact on profitability. Instead of applying the general principles of financial management based on the results of research carried out in manufacturing, the managers can refer to the outcomes of this study and make more reasonable decisions regarding inventory, credit conditions, and payments to suppliers in the context of Bangladeshi agribusiness.

To investors, the research provides a viable means of evaluating the efficiency of operational performance of listed agribusiness firms on the Dhaka Stock Exchange. The figures of margin alone may be deceptive because the results show that a company might be posting high gross margins and at the same time making negative returns on its assets. By including cash conversion cycle into investment screening, investors have a more comprehensive view of firm quality.

To policymakers and regulators, the paper will contribute to the argument that agribusiness is a separate category in the research on finances and disclosure. Bangladesh wastes 2.4 billion dollars every year on post-harvest wastes and imports food by huge quantities even when it produces a lot of food. Enhancing the working capital efficiency in this industry is not entirely a corporate finance issue. It is directly related to the extent to which what is produced actually makes it into the market and creates value, making it a food security issue as much as a financial one.

To researchers, the research contributes a very obvious gap in the literature. The existing literature on working capital and profitability in Bangladesh has concentrated on manufacturing in general and no such research has used the framework to specifically examine listed agribusiness firms on the basis of firm level financial data. The present research gives a base upon which the future research can rely especially when additional years of data are made available and when the sample could be extended to a greater number of firms.

Chapter 2: Literature Review

2.1 Working Capital Management and Efficiency

Working capital management refers to the process of planning and controlling current assets and current liabilities to ensure a firm can meet its short-term obligations while generating adequate returns. According to Makori and Jagongo (2013) as cited in Hossain (2020), it is defined as the management of the short-term capital that is to ensure satisfactory liquidity, profitability, and shareholder value. Moyer, Mcguigan and Kretlow (1995) cited in Quayyum (2011) discovered that working capital investment in manufacturing companies is about 40 percent of the total asset investment, whereas Scherr (1989) opined that companies that embarked on sound working capital practices are in a better position to sustain healthy cash flows and enhance profitability.

The most commonly used measure of working capital efficiency is the cash conversion cycle. It takes the inventory conversion period, the receivables collection period and the payables deferral period as one figure that reflects the net number of days between a firm paying its inputs and its customers paying their money. Quayyum (2011) applied this framework to Bangladeshi cement industry and discovered that there was a significant relationship between working capital efficiency and profitability. Haque Neelom and Asad (2017) generalized this to four manufacturing sectors listed on the Dhaka Stock Exchange and discovered a stable negative correlation between cash conversion cycle and the return on assets, with the degree of association differing across industries. Hossain (2020) examined 52 manufacturing companies listed on the DSE between 2012 and 2017 and found that the correlation between cash conversion cycle and the returns on assets and returns on equity is significant (negative).

Karim et al. (2023) is the most at-length Bangladesh based study with 61 DSE-listed companies spanning all ten manufacturing industries and found a negative relationship between longer cash conversion cycle and profitability and that shorter inventory conversion time and shorter receivable collection periods are the most viable lever to enhance financial performance. In the food and related industry in particular, Saimoon (2023) evaluated DSE-traded food firms between 2018 and 2021 and discovered that productive short-term capital management is positively related to the profitability of the firms, but that long collection time and poor inventory turnover were a prevalent issue in the industry.

2.2 Liquidity and Profitability Measures

The current ratio and quick ratio are the two most commonly used indicators of a firm's short-term liquidity position. The current ratio, which is the ratio of current assets to current liabilities, is an indication of how effectively the firm can meet its short-term commitments using its short-term resources. In her study on the analysis of Bangladeshi cement companies, Quayyum (2011) added the current ratio and cash position ratios as well and observed that there is a strong correlation between liquidity management and profitability of a firm, which indicates that the way in which a firm manages the liquidity buffer is relevant to its financial performance.

Karim et al. (2023) however, warned that current ratio and quick ratio are static ratios that concentrate on balance sheet values at a point in time, and they are incapable of reflecting the overall cash management capacity of a firm. Quayyum (2011) and Hossain (2020) both used the quick ratio as a useful indicator in their working capital studies, because it gives a more conservative view of liquidity in the short term, as it excludes inventory as part of current assets and then divides it by current liabilities.

Profitability ratios reflect the efficiency of firm in transforming its revenues, assets and equity into profits. The most commonly used profitability indicators in the literature that is Bangladesh-centered are return on assets and return on equity. According to Hossain (2020), both measures were used and defined as measures of management efficiency in terms of using assets and equity to produce profit.

The same method was applied by Karim et al. (2023), who employed the return on assets and earnings per share, adding that the two indicators reflect the conversion of short-term capital decisions into reality at the company level in terms of financial returns. Return on assets was the main measure of profitability used by Haque Neelom and Asad (2017), who believed that it reflects performance of firms regardless of their capital structure. In the evaluation of food and allied companies, Saimoon (2023) used both the gross profit margin and the measurements of returns at the margin, considering that margin-based profitability and asset-based returns may present divergent interpretations of the same company.

2.3 Research Gap

The reviewed studies prove a consistent trend in the manufacturing sector of Bangladesh and that is, the longer the cash conversion cycle, the less profitable the industry is. But, none of these studies is analyzing agribusiness as an independent sector. Quayyum (2011) was concentrated on cement, Hossain (2020) selected 52 firms of various industries, and Karim et al. (2023) intentionally selected all ten manufacturing industries. Haque Neelom and Asad (2017) incorporated food companies in a four-industry sample and did not study them individually, but their results revealed that the cash conversion cycle-profitability relationship is meaningfully different across different sectors.

Saimoon (2023) was the nearest to the food and allied sector but did not go to the extent of using regression analysis to test formally the relationship between working capital and profitability at the firm level, implying that her descriptive results are not sufficient to determine the relative level of contribution of each individual component of working capital to profitability after factoring in the effects of firm size and leverage.

The nature of operations experienced by Agribusiness firms makes them unlike general manufacturing operations such as perishable products, seasonal procurement, and supply chains with disaligned credit pressures. This paper fills this gap by using correlation and regression analysis on four publicly traded agribusiness companies, generating industry-specific data, which the literature on Bangladesh has not yet presented.

Chapter 3: Research Methodology

3.1 Research Design

This study uses a quantitative descriptive-correlational research design. The method was selected since the data is already in the form of audited annual reports, hence, no surveys, interviews, and experiments were necessary. The research merely quantifies and examines financial information as it is presented in the published financial statements of the four sampled companies. It is also worth noting that Northern Grainland Ltd., the host organization for this internship, was not in a position to share internal financial data for research purposes. The analysis was thus based on secondary data of the publicly listed firms and this also enabled a wider and more comparable data of several firms and years.

The descriptive section of the design will entail the calculation and summarization of the working capital indicators and profitability measures of each of the four firms over the 4-year span of 2022-2025. This provides an easy view of how each firm has performed over the years and makes easy comparisons between firms and years.

The correlational part then looks at whether and how the working capital indicators relate to the profitability measures. The direction and strength of those relationships are determined using Pearson correlation analysis. Ordinary least squares regression is then used to test whether the difference in working capital efficiency can be statistically used to explain the difference in profitability after taking into consideration the difference in firm size and leverage among the four companies.

This design does not claim to prove causation. It determines and defines statistical correlations between variables, which aligns with how other studies on the topic were performed in Bangladesh, such as Hossain (2020), Haque Neelom and Asad (2017), and Karim et al. (2023).

3.2 Data Sources

The paper has fully utilized secondary data based on the audited annual reports of the four chosen companies, including Agricultural Marketing Company Limited, Index Agro Industries Limited, Golden Harvest Agro Industries Limited, and Krishibid Seed Limited that include the fiscal years 2022 to 2025. These reports have been found on the investor relations page of the companies and the Dhaka Stock Exchange portal. The working capital and profitability measures are obtained directly based on the income statements and balance sheets that are part of these reports. Audited annual reports are said to be reliable since they are prepared in accordance with accepted accounting standards and checked by independent external auditors, making it less likely that there will be measurement error among firms and years.

3.3 Variables of the Study

This study works with two main sets of variables and 1 set of control variables, which are;

Independent Variables: Working Capital Efficiency

1. Current Ratio
2. Quick Ratio
3. Cash Conversion Cycle
 - a. Inventory Conversion Period Days
 - b. Receivables Collection Period Days
 - c. Payables Period Days

Dependent Variables: Profitability

1. Gross Profit Margin
2. Operating Profit Margin
3. Return on Assets
4. Return on Equity

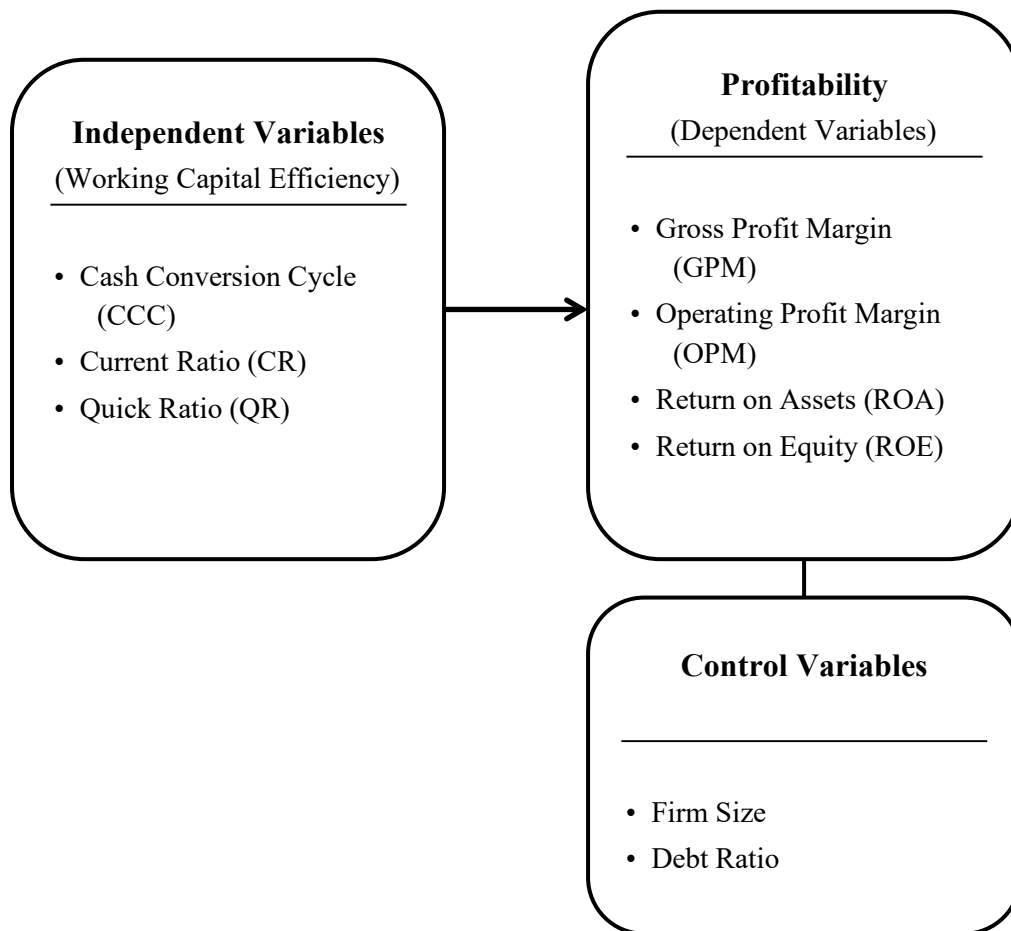
Control Variables:

1. Firm Size
2. Debt Ratio

All six working capital indicators are tested against each profitability measure in the correlation analysis. **The cash conversion cycle is treated as the single working capital predictor** in the regression models as opposed to using the three components separately because the cycle is mathematically derived out of the three components. The components are then analyzed using correlation and the regression is done on the joint measure of the cycle. All four regression models include the two control variables to explain differences in firm size and leverage that may independently influence profitability.

3.4 Conceptual framework

Figure 3.4:



This study frames **working capital efficiency** as the independent variable and **profitability** as the dependent variable, with firm size and debt ratio included as controls.

Three indicators are used to measure the independent side; Cash Conversion Cycle (CCC), Current Ratio (CR), and Quick Ratio (QR) that represent three different aspects of how efficiently a firm operates its short-term financial position. This CCC is further divided into its three parts, such as Inventory Conversion Period (ICP), Accounts Receivable Collection Period (ARCP), and Accounts Payable Period (APP) which are analyzed individually in the correlation analysis and then the collective CCC is adopted in the regression models to prevent multicollinearity.

3.5 Data Analysis Techniques

The analysis is carried out in four sequential stages.

The first stage is ratio analysis, where all working capital and profitability indicators are calculated directly from the financial statements of the four selected firms. Figures such as inventory, accounts receivable, accounts payable, cost of goods sold, net sales, total assets, and total equity are extracted from the audited annual reports and applied to the formulas to create the dataset for SPSS descriptive statistics and regression analysis, however, this part of the analysis is not shown in the paper as they alone do not serve much meaning to the purpose of this research.

The second step is the descriptive statistics, which summarizes the calculated ratios through measures like the mean, minimum, maximum and standard deviation. This provides an easy view of the trend of working capital efficiency and profitability over firms and time before proceeding to inferential analysis.

The third step is Pearson correlation analysis that tests the direction and the strength of the relationships of each working capital indicator with each measure of profitability. The standard significance levels of five percent and one percent are used to interpret results.

The fourth step of this research paper is, ordinary least squares regression. It estimates four different models using each of the measures of profitability as the dependent variable and return on assets, return on equity, gross profit margin, and operating profit margin as the dependent variable. The rationale behind having four models as opposed to a single one is that each measure of profitability is a different aspect of financial performance and by testing them individually it is possible to determine whether the cash conversion cycle has the same impact on all of the four measure of profitability or whether it has a different impact depending on the measure of profitability. This proved to be a significant difference in the results.

The cash conversion cycle, the current ratio, the quick ratio, the size of the firm and the debt ratio are the predictors in both models. The three single elements within the cash conversion cycle such as inventory conversion period, receivables collection period and payables period

are not listed in the regression models although they are calculated and analyzed in the correlation analysis.

This is because these three are mathematically used to determine the cash conversion cycle and thus having all the four in the same model would imply that the same information will be counted twice, violating the reliability of the regression estimates. The combination of cash conversion cycle and the cash conversion cycle will not bring about this issue but the cash conversion cycle will still measure the overall effectiveness of working capital of any given firm.

Microsoft Excel is used for data organization and ratio calculations. SPSS is used for the correlation and regression analysis.

Chapter 4: Findings and Analysis:

4.1 Descriptive Analysis of Working Capital Indicators

Table 4.1: SPSS Descriptive Analysis on 4 Agribusiness

Descriptive Statistics					
Working Capital Variables	N	Minimum	Maximum	Mean	Std. Deviation
Inventory Conversion Period (days)	16	52.33	390.17	194.3627	125.07986
Accounts Receivable Collection Period (days)	16	7.98	414.21	132.0068	130.61905
Accounts Payable Period (days)	16	0.67	53.22	10.2075	14.82252
Cash Conversion Cycle (days)	16	106.73	751.16	316.1620	221.77335
Current Ratio	16	1.46	1.78	1.6163	0.09366
Quick Ratio	16	0.55	1.39	0.9458	0.32786
Gross Profit Margin (%)	16	13.85	42.04	24.8034	9.79691
Operating Profit Margin (%)	16	7.02	22.63	12.9418	5.31275
Return on Assets (%)	16	-0.04	0.06	0.0226	0.02650
Return on Equity (%)	16	-0.08	0.08	0.0404	0.04715
Firm Size	16	20.05	22.70	21.5778	1.04521
Debt Ratio	16	0.28	0.59	0.4541	0.08391
Valid N (listwise)	16				

The descriptive analysis of working capital indicators to show the basic pattern of the data before testing the hypotheses. It helps identify how much the firms differ in inventory, receivables, payables, liquidity, and profitability, and it gives context for the later correlation and regression results. The working capital indicators show considerable variation, reflecting genuine differences in how the four firms manage their operating cycles.

The inventory days were 194.36 with a range of 52.33 to 390.17 days with a receivables days being 132.01 with a range of less than 8 days to 414.21 days. The two variables have large standard deviations indicating structural differences among firms and years and not random noise. The payables days were only 10.21 on average with a maximum of 53.22 implying that these companies pay suppliers much sooner than they receive payments.

That imbalance directly contributes to the cash conversion cycle with an average of 316.16 days with a variance of between 106.73 and 751.16 days. These are long cycles at the lower end and the dispersion of 221.77 days affirms that the working capital intensity is different across the sample. Its current ratio was 1.62 with a narrow range between 1.46 and 1.78, which implies that all four companies had sufficient short-term coverage during the 2022-25 years.

The quick ratio was 0.95 with a larger range of 0.55 to 1.39, which displays variations in the ratio of the amount of inventory held in current assets among the firm-years.

Gross profit margin stood at 24.80 percent and operating profit margin stood at 12.94 percent on the profitability part. The average return on assets was 2.26 percent but at least -4.05 percent shows that not all firm-years made a profit at the asset level. The average ROE was 4.04 per cent with the range of -7.75 to 8.25 per cent. The average debt ratio of 0.45 indicates a moderate leverage in the sample and the firm size is 21.58 on the natural log scale with a standard deviation of 1.05, which shows that the firms are meaningfully different in size.

Combining these values characterizes businesses that are widely liquid but have long and bumpy working capital cycles, and it is that change that enables one to test the hypothesis that the management of working capital in a more efficient way relates to a better profitability in the analysis that follows.

4.2 Liquidity Analysis:

Table 4.2: Red = quick ratio below 1.0.

Variable	GHAIL	IAIL	KSL	AMCL	Sample Mean
Current Ratio	1.60	1.58	1.64	1.65	1.62
Quick Ratio	1.19	0.62	1.30	0.66	0.95

Liquidity analysis shows whether the firms are able to meet their short-term obligations from their current assets. This analysis was done due to the fact that profitability by itself does not indicate financial stability of a firm in the short term. A company can also record a profit yet experience cash strains hence liquidity analysis assists in explicating the short term financial state of each company.

The four companies kept their current ratios at or above one during the 2022 to 2025 timeframe, with the sample mean of 1.62. The firm-to-firm dispersion is relatively small, with IAIL taking a value of 1.58, and KSL and AMCL having a value of 1.64 and 1.65 respectively, indicating that the short-run coverage of current liabilities is widely appropriate across the sample irrespective of the firm size or sub-sector. The 1.60 average at GHAIL also fits within the same range yet it has the most working capital-intensive operations of four. What the current ratio fails to tell, however, is the extent to which that liquidity is tied up in inventory, which in agribusiness may be slow-moving, seasonal, or a loss before conversion to cash after harvest.

The difference is revealed by the quick ratio. Removing inventory off current assets, the sample mean is lowered to 0.95, yet the firm level picture is much different. GHAIL and KSL have average current ratio of 1.19 and 1.30 respectively, indicating that both companies can cover the current liability without

selling inventory, which partly explains the large inventory values and relatively slender inventory standings of GHAIL and KSL as seed companies. On the contrary, IAIL and AMCL are at 0.62 and 0.66 which is way below one. In the case of these two companies, inventory constitutes a significant part of their short-term buffer and any impairment of the stock liquidation would strain their capacity to service their short-term liabilities. This discrepancy between the current ratio and the quick ratio among the sample indicates inventory as the most important variable behind the liquidity risk in Bangladeshi agribusiness, which is directly related to the questions of working capital efficiency at the heart of this research.

The liquidity data here offers an early but incomplete picture of Hypothesis 3, which proposes that higher current and quick ratios are positively associated with profitability.

4.3 Profitability Analysis

Table 4.3: Red = negative return. Green = highest in row.

Variable	GHAIL	IAIL	KSL	AMCL	Sample Mean
Gross Profit Margin (%)	40.81	17.35	21.99	19.07	24.81
Operating Profit Margin (%)	20.18	13.18	11.23	7.18	12.94
Return on Assets (%)	-1.75	3.75	4.25	2.75	2.26
Return on Equity (%)	-3.25	7.00	6.50	5.75	4.04

The four companies show a considerable difference in the profitability of the margin level and the return level. GHAIL also tops the sample in gross profit margin of 40.81 percent and operating profit margin of 20.18 percent, which is approximately twice that of AMCL which had an average of 19.07 and 7.18 percent respectively. KSL and IAIL are in between, having gross margins of 21.99 and 17.35 percent and operating margins of 11.23 and 13.18 percent. At the margin, GHAIL seems to be the best performer by a significant margin, indicating that its product mix and pricing have more value added as compared to the three other firms.

The flip side of that picture is when profitability is calculated at the asset and equity level. GHAIL is the sole company in the sample whose returns were negative with an average of -1.75 per cent on assets and -3.25 per cent on equity over the course of study. KSL also has the highest ROA of 4.25 percent and then IAIL and AMCL come in with 3.75 and 2.75 percent respectively. AAIL leads a little in ROE with 7.00 percent, followed by KSL 6.50 and AMCL 5.75 percent. This turnaround in the positive margins of GHAIL to negative asset returns suggests a company that is making good profits at the operating level and that it is losing them between the income statement and the balance sheet, probably due to the sheer size of assets held up in its long working capital cycle.

This trend is directly applicable to the first research question, which entails what the relationship is between working capital measures and profitability measures such as ROA and ROE. The reason that GHAIL has the highest margins and the lowest returns at the asset level, and KSL and IAIL have mediocre margins but the highest returns is that operational efficiency of turning assets into earnings is more significant than margin size by itself.

It also offers premature directional evidence on Hypothesis 1 that argues that working capital efficiency is linked to profitability as the companies with less cash conversion cycle may be the same companies yielding returns on their assets and equity.

4.4 Correlation Analysis:

Table 4.4: ** significant at 0.01 level; * significant at 0.05 level | Blue = significant positive | Red = significant negative.

Working Capital Indicator	Gross Profit Margin	Operating Profit Margin	Return on Assets	Return on Equity
Inventory Conversion Period (days)	.654**	.801**	-.709**	-.684**
Receivable Collection Period (days)	.947**	.847**	-.818**	-.893**
Accounts Payable Period (days)	.878**	.786**	-.779**	-.803**
Cash Conversion Cycle (days)	.868**	.898**	-.830**	-.858**
Current Ratio	-0.019	0.07	0.179	0.116
Quick Ratio	.593*	0.47	-0.253	-0.427

(Full Correlation Analysis from SPSS can be found at Appendix)

The Pearson correlation findings indicate a steady and statistically significant trend between the days-based working capital indicators and profitability, but the direction of the relationship is dependent on the profitability measure used.

Both the gross profit margin are strongly positively correlated with the cash conversion cycle.

($r = .868$, $p < .01$) and operating profit margin ($r = .898$, $p < .01$), which indicate that longer cycles are associated with higher margins. The same positive trend applies to inventory days, receivables days and payables days versus both margin measures which are significant at the one percent level. This is at first sight paradoxical to the expectation that efficiency would result in improved financial performance but it hones the Golden Harvest Agro Industries Limited effect already realized in the descriptive analysis: one firm has both the longest working capital cycle and the highest margins in the sample, which causes such correlations to be positive.

When the measure of profitability is at the asset and equity level, the relation becomes the opposite. Cash conversion cycle has a negative correlation with return on assets ($r = -.830$, $p < .01$) and return on equity ($r = -.858$, $p < .01$) and the inverse relationship is also negative in the case of inventory days, receivables days and payables days with the two returns. These are some of the best correlations of the whole matrix and all are significant at the one percent level.

The story of the liquidity ratios is different. The current ratio has no statistically significant correlation with all the four profitability measures with coefficients being near to zero. The quick ratio is only significant to gross profit margin ($r = .593$, $p < .05$) and has no significant relationship with return on assets or return on equity. It implies that having a higher current ratio does not seem to be associated with an increase in profitability in this sample, at least not in a statistically significant manner. The one notable outcome of the quick ratio against the gross profit margin is again probably motivated by the Golden Harvest Agro Industries Limited that has the highest quick ratio as well as the highest gross margin of the four companies.

The negative correlations between cash conversion cycle and inventory days and receivables days with return on assets and return on equity are found to be strong and directional in proving the second and third hypothesis as firms with high cash cycles and slow collections yield lower returns on assets and returns on equity. This sample does not support the third hypothesis which had positive associations between the liquidity ratios and profitability. The current ratio, as well as the quick ratio, is not meaningfully correlated with the measures of profitability based on returns.

The correlation analysis alone cannot determine the relative contribution of each variable with the rest constant and this is what the regression models in the next section will get.

4.5 Regression Analysis:

To test whether working capital efficiency statistically explains variation in profitability after accounting for firm size and leverage, four separate ordinary least squares regression models were estimated.

Each model uses the same set of predictors:

1. Cash Conversion Cycle as the main working capital variable.
2. Current Ratio as a liquidity indicator.
3. Quick Ratio as a liquidity indicator.
4. Firm Size, measured by the natural logarithm of total assets.
5. Debt Ratio as a control variable.

The four models differ only in the dependent variable.

The dependent variables are:

1. Return on Assets.
2. Return on Equity.
3. Gross Profit Margin.
4. Operating Profit Margin.

To prevent duplication and multicollinearity, the regression analysis does not use the three components of the Cash Conversion Cycle individually as the working capital measure but instead uses the Cash Conversion Cycle as the primary working capital measure. As Cash Conversion Cycle is already determined with the help of Inventory Conversion Period, Accounts Receivable Collection Period and Accounts Payable Period, combining all of them in a single regression would be duplication of information and dilute the accuracy of estimates. That is why the elements are considered in the correlation analysis and the regression is devoted to the aggregate measure to examine the overall impact of working capital efficiency on profitability in a more statistically suitable manner.

Model 1: Return on Assets.

Table 4.5:

R ²	Adjusted R ²	F-statistic	Significance
0.883	0.825	15.136	p < 0.001

Table 4.6: CCC/ Cash Conversion Cycle is the only significant predictor ($\beta = -1.532$, $p = .026$).

All others grey (ns = not significant).

Predictor	Unstd. B	Std. Beta (β)	t	p-value	Sig.
CCC	-0.000183	-1.532	-2.602	0.026	*
Current Ratio	0.021	0.075	0.604	0.559	ns
Quick Ratio	0.030	0.366	0.653	0.529	ns
Firm Size	0.024	0.940	1.665	0.127	ns
Debt Ratio	-0.134	-0.423	-2.055	0.067	ns

This model shows 88.3 percent of the variance in return on assets, with an adjusted R square of 0.825 and an overall F statistic of 15.136 significant at the one percent level, confirming strong collective fit. Among the individual predictors, the cash conversion cycle is the only variable that reaches statistical significance at the five percent level, with an unstandardized coefficient of -0.000183 (Beta = -1.532, $t = -2.602$, $p = .026$).

Holding all other variables constant, a one-day increase in the cash conversion cycle is associated with a decrease in return on assets, and the standardized beta of -1.532 indicates that the cash conversion cycle carries the largest individual contribution to the model. The debt ratio approaches but does not reach significance ($p = .067$), while the current ratio, quick ratio, and firm size are all statistically insignificant.

This result provides direct statistical support for the first hypothesis, which proposed that working capital efficiency is significantly associated with profitability, and for the second hypothesis, which predicted a negative association between the cash conversion cycle and profitability. With return on assets as the measure of profitability, both hypotheses are supported. The cash conversion cycle is not only significant but is the dominant predictor in the model, which means that differences in how efficiently the four firms manage their operating cycle explain a substantial portion of the variation in asset-level returns across the 2022 to 2025 period.

Model 2: Return on Equity.

Table 4.7:

R ²	Adjusted R ²	F-statistic	Significance
0.884	0.827	15.294	p < 0.001

Table 4.8: CCC/ Cash Conversion Cycle again the sole significant predictor ($\beta = -1.600$, $p = .021$), marginally stronger than in Model 1.

Predictor	Unstd. B	Std. Beta (β)	t	p-value	Sig.
CCC	-0.000340	-1.600	-2.729	0.021	*
Current Ratio	0.020	0.040	0.328	0.750	ns
Quick Ratio	0.050	0.349	0.626	0.546	ns
Firm Size	0.044	0.975	1.735	0.113	ns
Debt Ratio	-0.146	-0.259	-1.265	0.235	ns

This model shows return on equity, produces results nearly identical in structure to model 1. The overall fit is good with an R square of 0.884, an adjusted R square of 0.827 and an F statistic of 15.294 significant at a level of one percent. It is once again the cash conversion cycle that is the only predictor of significance on its own, with an unstandardized coefficient of -0.000340 (Beta = -1.600, $t = -2.729$, $p = .021$).

The negative sign is significant and slightly higher standardized beta than that of Model 1 implies that the cash conversion cycle exerts slightly more significant relative impact on return on equity than that on return on assets. The other predictors, the current ratio, quick ratio, firm size, and debt ratio, are all statistically insignificant and no other variable even approaches the five percent mark.

The second hypothesis is once again supported. The cash conversion cycle has a statistically significant negative relationship with the return on equity which proves that the longer the working capital cycle of the firm, the lower the returns of the shareholders regardless of the size and leverage of the firm.

This conclusion is supported by the fact that both Model 1 and Model 2 predict the same way that a single predictor produces the same level of significance in the two measures of profitability based on returns, and the coefficients are in the same direction with similar significance values.

Model 3: Gross Profit Margin.

Table 4.9:

R ²	Adjusted R ²	F-statistic	Significance
0.927	0.891	25.410	p < 0.001

Table 4.10: CCC/ Cash Conversion Cycle is significant but direction reverses ($\beta = +1.371$, $p = .015$)

Driven by GHAIL's simultaneous high margin and long cycle.

Predictor	Unstd. B	Std. Beta (β)	t	p-value	Sig.
CCC	0.061	1.371	2.944	0.015	*
Current Ratio	0.493	0.005	0.048	0.962	ns
Quick Ratio	-1.809	-0.061	-0.137	0.894	ns
Firm Size	-7.004	-0.747	-1.673	0.125	ns
Debt Ratio	22.949	0.197	1.208	0.255	ns

This model shows the highest R square of all four models at 0.927, with an adjusted R square of 0.891 and an F statistic of 25.410 significant at the one percent level. The cash conversion cycle is again the only individually significant predictor, but the direction of its coefficient reverses compared to Models 1 and 2. The unstandardized coefficient is 0.061 ($\beta = 1.371$, $t = 2.944$, $p = .015$), meaning that a longer cash conversion cycle is associated with a higher gross profit margin when all other variables are held constant.

This turnaround is in line with the trend in the correlation analysis and directly explained by the Golden Harvest Agro Industries Limited, which is also the company with the longest average cash conversion cycle of 656.50 days and the highest gross profit margin of 40.81 percent in the sample. The other predictors are not significant as the current ratio and the quick ratio generate almost zero beta coefficients.

When gross profit margin is considered as the measure of profitability, the second hypothesis which assumed a negative correlation between cash conversion cycle and profitability is not supported. The correlation is positive and significant and in the opposite direction.

This does not nullify the hypothesis in general, but indicates that the correlation between working capital efficiency and profitability in this sample depends on the dimension of profitability that is being used. The profitability of the margin and return level is sensitive to the length of the working cycle differently and that fact is a significant finding in itself.

Model 4: Operating Profit Margin.

Table 4.11:

R ²	Adjusted R ²	F-statistic	Significance
0.904	0.856	18.776	p < 0.001

Table 4.12: No individual predictor reaches significance. The model fits collectively (R² = 0.904) but no single variable explains it.

Predictor	Unstd. B	Std. Beta (β)	t	p-value	Sig.
CCC	0.006	0.246	0.461	0.655	ns
Current Ratio	6.027	0.106	0.948	0.366	ns
Quick Ratio	9.526	0.588	1.155	0.275	ns
Firm Size	3.630	0.714	1.392	0.194	ns
Debt Ratio	-7.850	-0.124	-0.664	0.522	ns

This model shows 90.4% of the variance in operating profit margin, with an adjusted R square of 0.856 and an F statistic of 18.776 significant at the one percent level. Unlike the three other previous models, no individual predictor reaches statistical significance at the 5% level. The cash conversion cycle, which drove significance in Models 1, 2, and 3, produces a coefficient of 0.006 (Beta = 0.246, t = 0.461, p = .655) here, meaning it has no individually detectable association with operating profit margin once the other variables are accounted for.

The most standardized beta in the model is the quick ratio, which has a value of 0.588, but the t statistic of 1.155 is substantially below the standard significance of 3.84. The model does a good job of fitting the data on average but does not enable it to ascribe that fit to any individual predictor.

Model 4 does not support the second hypothesis. There are no significant negative or positive correlations between cash conversion cycle and operating profit margin, and this implies that the hypothesis is partly valid in the four models. It has a positive value of return on assets and return on equity, and none of its measures of margin.

The net result of the four models together is that working capital efficiency as measured by the cash conversion cycle is most important to the profitability in terms of returns and least important to the operating margin, which implies that the efficiency of the working capital cycle is the most relevant to the amount of profits earned by the firm per unit of asset base and the least to the amount of profits retained by the firm per unit of revenue at the operating level.

4.6 Hypothesis Testing:

❖ Hypothesis 1: Supported.

This hypothesis is supported across all four regression models, the predictor set collectively explains between 82.5 and 89.1 percent of the variation in profitability after adjustment, with each model significant at the one percent level.

The correlation test also determined that the indicators of working capital based on days worked, especially the cash conversion cycle have strong and statistically significant correlations with all the four measures of profitability.

Combined, the descriptive, correlation, and regression results are always directed towards the efficiency of working capital as a significant determinant of profitability among the four companies of choice in the 2022 to 2025 time frame.

❖ Hypothesis 2: Partially Supported.

This hypothesis is partially supported. As established in the regression analysis, the cash conversion cycle is the only individually significant predictor across the four models, and it carries a negative and significant coefficient in both the return on assets model (Beta = -1.532, $p = .026$) and the return on equity model (Beta = -1.600, $p = .021$).

This confirms that companies that have longer working capital cycles have lower returns on their assets and equity which is the direction that the hypothesis forecasted. The relationship is however not true at the margin level.

The cash conversion cycle is important but positive in the gross profit margin model, and is not significant at all in the operating profit margin model. The hypothesis is then accepted when profitability is in terms of returns but not when profitability is measured in terms of margins and this difference is explained by the influence of the long cycle and high margins of the samples sampled on the sample level outcomes as explained in section 4.3 and 4.4.

❖ **Hypothesis 3: Not Supported.**

This hypothesis is not supported. As shown in the liquidity analysis in section 4.2, all four firms maintained broadly similar and adequate current ratios throughout the study period, which left little variation for the ratio to explain.

The current ratio had no significant correlation with any of the four profitability ratios in the correlation analysis and only the quick ratio was significantly different with gross profit margin which can be attributed to Golden Harvest Agro Industries Limited effect and not to the general trend.

This was supported by regression models, since not one of the current ratio or the quick ratio is significant in all of the four models, i.e. they do not provide any independent explanatory power of profitability when the cash conversion cycle and the control variables are included. In this sample, increasing the liquidity buffers does not correlate with higher financial returns implying that in such firms the working capital cycle structure is more important than the short-term coverage level.

Chapter 6: Recommendations

This research indicates that there are very specific and practical areas in which agribusiness managers, investors, and policymakers can enhance their working capital practices and financial performance. The following recommendations are based on the trends of the four chosen firms during the 2022-2025 period.

1. Companies that have longer collection terms must tighten the credit terms with their distributors and retailers. The difference between the 336 days and 14 days of average receivables of Golden Harvest Agro Industries Limited and Agricultural Marketing Company Limited respectively, explains most of the difference between their respective results in terms of their turnover-level profitability.
2. The inventory holding periods are to be adjusted more in line with the real demand cycles. The variation in the average inventory days of Krishibid Seed Limited's 58 days and Golden Harvest Agro Industries Limited's 353 days indicate that the leaner inventory management can be realised in the same industry.
3. Cash conversion cycle is one of the internal performance measures that should be monitored along with margins. It is possible that a firm can have good gross margins but still can have negative returns on its assets when its working capital cycle is too long, and the regression results clearly indicate this.
4. Gross profit margin and operating profit margin are not enough firm quality indicators in this industry. Investment screening of listed agribusiness companies on the Dhaka Stock Exchange must include the cash conversion cycle since it is a better indicator of return on assets and return on equity than the margin.

Chapter 7: Conclusion

This paper has analyzed the correlation between the efficiency of working capital and profitability of four listed Bangladeshi agribusiness companies between the years 2022 and 2025. Based on ratio analysis, Pearson correlation, and ordinary least squares regression, the evidence shows consistently that the cash conversion cycle is the working capital variable that is most closely related to the financial performance. It is an individually significant predictor in three of four regression equations with a negative and significant relationship with return on assets and return on equity, and the liquidity ratios do not contribute independent explanatory power in any equation. The overall models account between 82.5 and 89.1 percent of the adjustment in the profitability, which validates the fact that the working capital framework used in this case is well adapted to the agribusiness environment.

The statistical results are concrete and presented in firm-level. The highest gross margins in the sample are reported by Golden Harvest Agro Industries Limited but the company is providing negative returns on assets and equity which is the direct result of a 656-day average on the cash conversion cycle. Krishibid Seed Limited and Agricultural Marketing Company Limited with cycles of 169 and 115 days respectively have consistently positive returns with a lower margin. The comparison of these companies is used to show the main idea of the study: margin strength and working capital efficiency are two different concepts and in this sample efficiency is the one that defines whether the operational performance is converted to real returns.

The small sample size and lack of inventory days and receivables days as independent regression predictors of the study are also a limitation since future research is required to include them. More generalizable conclusions would be made by a wider sample of listed agribusiness firms over a longer time with firm-fixed effects to take into account unobservable differences. In its context, though, this research is to give a clear and data-based evidence that the working capital cycle length is a significant determinant of profitability in Bangladeshi agribusiness, and that its proper management is not a peripheral consideration, but a financial choice, with direct returns implications.

Appendix:

Formulas Used in the Research:

Working Capital Efficiency:
Inventory Conversion Period = (Average Inventory / Cost of Goods Sold) × 365
Accounts Receivable Collection Period = (Average Accounts Receivable / Net Sales) × 365
Accounts Payable Period = (Average Accounts Payable / Cost of Goods Sold) × 365
Cash Conversion Cycle = Inventory Conversion Period + Accounts Receivable Collection Period - Accounts Payable Period
Liquidity Measures:
Current Ratio = Current Assets / Current Liabilities
Quick Ratio = (Current Assets - Inventory) / Current Liabilities
Profitability Measures
Gross Profit Margin = (Gross Profit / Net Sales) × 100
Operating Profit Margin = (Operating Profit / Net Sales) × 100
Return on Assets = Earnings Before Interest and Tax / Total Assets
Return on Equity = Earnings Before Interest and Tax / Total Equity
Control Variables and Other Formula
Firm Size = ln(Total Assets) Excel LN function
Debt Ratio = Total Liabilities / Total Assets

Ratio Calculation Results

Company	Year	AVG_INV	AVG_REC	AVG_PAY	ICP	ACP	APP	CCC	CR	QR	GPM	OPM	ROA	ROE	SIZE	DEBT
GHAIL	2022	504000000.00	724000000.00	43000000.00	354.47	312.71	30.24	636.94	1.51	1.10	38.59	17.04	-0.02	-0.03	22.36	0.43
GHAIL	2023	504000000.00	722000000.00	37000000.00	322.92	272.20	23.71	571.41	1.54	1.13	41.16	22.63	0.00	0.00	22.38	0.45
GHAIL	2024	502500000.00	861500000.00	34000000.00	344.30	345.48	23.30	666.48	1.60	1.21	41.47	18.76	-0.04	-0.08	22.36	0.48
GHAIL	2025	531500000.00	973500000.00	72500000.00	390.17	414.21	53.22	751.16	1.74	1.33	42.04	22.30	-0.01	-0.02	22.42	0.52
IAIL	2022	2044942591.00	639566585.50	40179085.00	208.54	56.19	4.10	260.64	1.46	0.55	13.85	9.52	0.04	0.08	22.50	0.50
IAIL	2023	2633589457.50	719128832.00	40603215.50	277.86	62.63	4.28	336.21	1.53	0.59	17.46	13.00	0.03	0.07	22.70	0.50
IAIL	2024	2747740764.50	811949854.50	40928706.00	284.66	69.22	4.24	349.65	1.69	0.67	17.71	13.56	0.04	0.07	22.67	0.44
IAIL	2025	2730359390.00	869901342.00	41680255.50	283.83	71.99	4.33	351.49	1.66	0.68	20.39	16.64	0.04	0.06	22.70	0.44
KSL	2022	46883885.50	79807839.00	1937837.50	58.54	77.81	2.42	133.94	1.78	1.39	21.93	13.60	0.06	0.08	20.05	0.28
KSL	2023	52835789.50	106031664.50	1864057.00	63.57	99.57	2.24	160.90	1.50	1.12	21.94	9.89	0.04	0.07	20.10	0.35
KSL	2024	48911636.00	129702885.50	1222628.50	58.19	120.32	1.45	177.06	1.59	1.33	22.03	8.20	0.04	0.06	20.11	0.34
KSL	2025	44490140.50	167205387.50	739800.00	52.33	153.25	0.87	204.71	1.68	1.38	22.05	13.23	0.03	0.05	20.19	0.36
AMCL	2022	618810920.50	191034283.00	25894124.50	88.32	22.11	3.70	106.73	1.68	0.80	18.91	7.20	0.03	0.06	21.09	0.52
AMCL	2023	700748048.00	150129614.50	20761374.50	98.01	16.98	2.90	112.09	1.69	0.63	19.11	7.02	0.03	0.06	21.09	0.51
AMCL	2024	804534882.50	72308037.50	12086274.50	109.82	7.98	1.65	116.15	1.66	0.60	19.12	7.24	0.03	0.06	21.22	0.56
AMCL	2025	883888434.50	90115681.00	5160854.50	114.28	9.42	0.67	123.04	1.56	0.62	19.13	7.24	0.02	0.05	21.31	0.59

Table 4.1: SPSS Descriptive Analysis

Descriptive Statistics					
Working Capital Variables	N	Minimum	Maximum	Mean	Std. Deviation
Inventory Conversion Period (days)	16	52.33	390.17	194.3627	125.07986
Accounts Receivable Collection Period (days)	16	7.98	414.21	132.0068	130.61905
Accounts Payable Period (days)	16	0.67	53.22	10.2075	14.82252
Cash Conversion Cycle (days)	16	106.73	751.16	316.1620	221.77335
Current Ratio	16	1.46	1.78	1.6163	0.09366
Quick Ratio	16	0.55	1.39	0.9458	0.32786
Gross Profit Margin (%)	16	13.85	42.04	24.8034	9.79691
Operating Profit Margin (%)	16	7.02	22.63	12.9418	5.31275
Return on Assets (%)	16	-0.04	0.06	0.0226	0.02650
Return on Equity (%)	16	-0.08	0.08	0.0404	0.04715
Firm Size	16	20.05	22.70	21.5778	1.04521
Debt Ratio	16	0.28	0.59	0.4541	0.08391

Correlation Analysis:

		Correlations											
		ICP	ACP	APP	CCC	CR	QR	GPM	OPM	ROA	ROE	SIZE	DEBT
ICP	Pearson Correlation	1	.692**	.762**	.921**	-.163	-.030	.654**	.801**	-.709**	-.684**	.899**	.301
	Sig. (2-tailed)		.003	<.001	<.001	.546	.911	.006	<.001	.002	.003	<.001	.258
	N	16	16	16	16	16	16	16	16	16	16	16	16
ACP	Pearson Correlation	.692**	1	.910**	.918**	-.033	.645**	.947**	.847**	-.818**	-.893**	.332	-.098
	Sig. (2-tailed)	.003		<.001	<.001	.905	.007	<.001	<.001	<.001	<.001	.209	.719
	N	16	16	16	16	16	16	16	16	16	16	16	16
APP	Pearson Correlation	.762**	.910**	1	.899**	.058	.414	.878**	.786**	-.779**	-.803**	.471	.175
	Sig. (2-tailed)	<.001	<.001		<.001	.830	.111	<.001	<.001	<.001	<.001	.065	.516
	N	16	16	16	16	16	16	16	16	16	16	16	16
CCC	Pearson Correlation	.921**	.918**	.899**	1	-.115	.335	.868**	.898**	-.830**	-.858**	.671**	.100
	Sig. (2-tailed)	<.001	<.001	<.001		.671	.204	<.001	<.001	<.001	<.001	.004	.711
	N	16	16	16	16	16	16	16	16	16	16	16	16
CR	Pearson Correlation	-.163	-.033	.058	-.115	1	.245	-.019	.070	.179	.116	-.238	-.146
	Sig. (2-tailed)	.546	.905	.830	.671		.361	.945	.797	.508	.670	.375	.589
	N	16	16	16	16	16	16	16	16	16	16	16	16
QR	Pearson Correlation	-.030	.645**	.414	.335	.245	1	.593*	.470	-.253	-.427	-.436	-.679**
	Sig. (2-tailed)	.911	.007	.111	.204	.361		.016	.067	.345	.099	.092	.004
	N	16	16	16	16	16	16	16	16	16	16	16	16
GPM	Pearson Correlation	.654**	.947**	.878**	.868**	-.019	.593*	1	.821**	-.869**	-.927**	.300	-.013
	Sig. (2-tailed)	.006	<.001	<.001	<.001	.945	.016		<.001	<.001	<.001	.258	.962
	N	16	16	16	16	16	16	16	16	16	16	16	16
OPM	Pearson Correlation	.801**	.847**	.786**	.898**	.070	.470	.821**	1	-.613*	-.690**	.534*	-.143
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	.797	.067	<.001		.011	.003	.033	.596
	N	16	16	16	16	16	16	16	16	16	16	16	16
ROA	Pearson Correlation	-.709**	-.818**	-.779**	-.830**	.179	-.253	-.869**	-.613*	1	.978**	-.485	-.348
	Sig. (2-tailed)	.002	<.001	<.001	<.001	.508	.345	<.001	.011		<.001	.057	.186
	N	16	16	16	16	16	16	16	16	16	16	16	16
ROE	Pearson Correlation	-.684**	-.893**	-.803**	-.858**	.116	-.427	-.927**	-.690**	.978**	1	-.395	-.157
	Sig. (2-tailed)	.003	<.001	<.001	<.001	.670	.099	<.001	.003	<.001		.130	.563
	N	16	16	16	16	16	16	16	16	16	16	16	16
SIZE	Pearson Correlation	.899**	.332	.471	.671**	-.238	-.436	.300	.534*	-.485	-.395	1	.519*
	Sig. (2-tailed)	<.001	.209	.065	.004	.375	.092	.258	.033	.057	.130		.040
	N	16	16	16	16	16	16	16	16	16	16	16	16
DEBT	Pearson Correlation	.301	-.098	.175	.100	-.146	-.679**	-.013	-.143	-.348	-.157	.519*	1
	Sig. (2-tailed)	.258	.719	.516	.711	.589	.004	.962	.596	.186	.563	.040	
	N	16	16	16	16	16	16	16	16	16	16	16	16

** . Correlation is significant at the 0.01 level (2-tailed).

Model 1: Return on Assets.**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.940 ^a	0.883	0.825	0.01109
a. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE				

ANOVA a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.009	5	0.002	15.136	.000 ^b
	Residual	0.001	10	0.000		
	Total	0.011	15			
a. Dependent Variable: ROA						
b. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE						

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.435	0.329		-1.321	0.216
	CCC	0.000	0.000	-1.532	-2.602	0.026
	CR	0.021	0.035	0.075	0.604	0.559
	QR	0.030	0.045	0.366	0.653	0.529
	SIZE	0.024	0.014	0.940	1.665	0.127
	DEBT	-0.134	0.065	-0.423	-2.055	0.067

Model 2: Return on Equity.**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.940 ^a	0.884	0.827	0.01964
a. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE				

ANOVA a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.029	5	0.006	15.294	.000 ^b
	Residual	0.004	10	0.000		
	Total	0.033	15			
a. Dependent Variable: ROE						
b. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE						

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.816	0.583		-1.398	0.192
	CCC	0.000	0.000	-1.600	-2.729	0.021
	CR	0.020	0.062	0.040	0.328	0.750
	QR	0.050	0.080	0.349	0.626	0.546
	SIZE	0.044	0.025	0.975	1.735	0.113
	DEBT	-0.146	0.115	-0.259	-1.265	0.235
a. Dependent Variable: ROE						

Model 3: Gross Profit Margin.**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.963 ^a	0.927	0.891	3.24110
a. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE				

ANOVA a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1334.644	5	266.929	25.410	.000 ^b
	Residual	105.047	10	10.505		
	Total	1439.691	15			
a. Dependent Variable: GPM						
b. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE						

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	147.282	96.289		1.530	0.157
	CCC	0.061	0.021	1.371	2.944	0.015
	CR	0.493	10.210	0.005	0.048	0.962
	QR	-1.809	13.237	-0.061	-0.137	0.894
	SIZE	-7.004	4.185	-0.747	-1.673	0.125
	DEBT	22.949	18.992	0.197	1.208	0.255
a. Dependent Variable: GPM						

Model 4: Operating Profit Margin.**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951 ^a	0.904	0.856	2.01885
a. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE				

ANOVA a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	382.623	5	76.525	18.776	.000 ^b
	Residual	40.757	10	4.076		
	Total	423.380	15			
a. Dependent Variable: OPM						
b. Predictors: (Constant), DEBT, CCC, CR, QR, SIZE						

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-82.428	59.977		-1.374	0.199
	CCC	0.006	0.013	0.246	0.461	0.655
	CR	6.027	6.360	0.106	0.948	0.366
	QR	9.526	8.245	0.588	1.155	0.275
	SIZE	3.630	2.607	0.714	1.392	0.194
	DEBT	-7.850	11.830	-0.124	-0.664	0.522
a. Dependent Variable: OPM						

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