**Project Report**

**On**

**Impact of working capital management in profitability and liquidity**

**– A study on Square Pharmaceutical limited.**

**Submitted To:**

**Controller of Examinations**

National University

Gazipur-1704

Supervised By:

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**Session: 2010-2011**

**Program: BBA**

**Major in Finance**





National University, Bangladesh

**Date of Submission: 9th April, 2016**

**Letter of Transmittal**

9th April, 2016

Controller of Examination

National University

Gazipur-1704

**Subject: Submission of project report.**

Dear Sir,

This is my pleasure to submit the project report on Impact of working capital management in profitability and liquidity – A study on Square Pharmaceutical limited**,** which I was assigned. This is a great chance for me to acquire knowledge and experience in respect of performing this report.

I have tried my best to prepare this to be as informative and relevant as possible. To prepare this report I have reviewed some books, articles, journals and downloaded some information from internet. I believe that the knowledge and experience I have gathered during my project report will immensely help me in my future professional life.

I gave my best efforts to achieve the objectives of the report and hope that my endeavor will serve the purpose. Besides, I have followed your remarks and instructions very carefully while preparing this report. I tried the best to maintain your schedule, format and discipline.

Thank you for your kind consideration.

Sincerely yours

Md.Sohage Hawlader

Roll No.: 1172375

Registration No.: 1177040

Session: 2010-2011

Program: BBA

Major: Finance

Daffodil Institute of IT (DIIT)

**Supervisor’s Declaration**

This is to certify that Md. Sohage Hawlader, student of Bachelor of Business Administration (BBA), major in Finance of Daffodil Institute of IT (DIIT) has completed this Project Report on **Impact of working capital management in profitability and liquidity – A study on Square Pharmaceutical limited**

I believe that he has completed this report himself while he was performing internship in Jamuna bank limited.

I wish his every success in life.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Aminul Haque Russel**

Lecturer,

Department of Business Administration

Daffodil Institute of IT (DIIT)

**Student’s Declaration**

I hereby declare that the study report on **Impact of working capital management in profitability and liquidity – A study on Square Pharmaceutical limited** includes the result of my own work, pursued under the supervision of Aminul Haque Russel Lecturer of BBA Program, Daffodil Institute of IT (DIIT).

I also like to declare that this report paper is my original work and is prepared for academic purpose which is a part of BBA program.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Md.Sohage Hawlader

Roll No: 1172375

Registration No: 1177040

Session: 2010-2011

Major in Finance

Bachelor of Business Administration

Daffodil Institute of IT (DIIT)

**Acknowledgement**

At first I would like to thank Almighty ALLAH who gave me to prepare this term paper. This report has created deal of interest to me.

Preparing this report was exciting and hard work at the same time. It is for the first time that I have been able to gather real life experience working on a report.

I would like to give my heartiest gratitude to **Aminul Haque Russel,** Lecturer BBA Program, Daffodil Institute of IT, my project report supervisor, for this kind concern, valuable time, advice, endless endeavor and guidance throughout the project period and making of the report.

I would like to thank the authority to the Daffodil Institute of IT (DIIT) for allowing me to do my report here.

**Executive Summary**

Every organization whether public or private, profit oriented or not, irrespective of its size and nature of business, needs adequate amount of working capital. The efficient working capital management is most crucial factor in maintaining survival, liquidity, solvency and profitability of the any business organization. Keeping in view the significance of working capital management as a gray area of corporate finance function, an attempt has been made to examine the working capital trends and practices of square pharmaceutical’s limited. Efficient management of working capital helps to avoid financial crisis, thereby, increasing the profitability and enhances the firms value. By observation of this it can be seen that both the liquidity position and the profitability position of square pharmaceutical’s limited is not up to the desired level. The year under review saw a slowdown in our economy with a consequent adverse impact on this industry. There are political turmoil situation in last year and some policy is imposed in this industry. It caused a great impact on the profitability of the company during the past years. The short term solvency position of the firm must be strengthened so that it is able to meet its obligations timely.

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**Acronyms**

|  |  |
| --- | --- |
| JBL | Jamuna Bank Limited |
| BBA | Bachelor of Business Administration |
| SPSS | Statistical Package of Social Science |
| SWIFT | The Society for Worldwide Interbank Financial Telecommunication |
| IT | Information Technology |
| ATM | Automated Tailor Machine |
| CSR | Customer Service Relationship |
| MD | Managing Directors |
| VP | Vice President |
| ROA | Return on Asset |
| ROE | Return on Equity |
| CPIDR | Cash & Portfolio Investment and Deposit Ratio |
| NLTA | Net Loan to Total Asset |
| LDR | Loan to Deposit Ratio |

**Chapter 1**

**Introduction**

**1.1 Introduction**

The concept of working capital was first evolved by Karl Max. The capital required for a company can be classified under two main categories such as: fixed capital and working capital. Funds required to create production facilities through purchase of fixed asset is called as fixed capital whereas, Working capital refers to part of firm’s capital which is required for financing short term or current assets such as cash, marketable securities, debtors and inventories. The Management of Fixed assets and Current assets has a great impact on future return and risk of the company. So it is vital ingredient to the business as the blood is to the human body.

Generally, there are two concepts of working capital i.e. balance sheet concept and operating cycle concept. Balance sheet concept can be again classified to gross concept and net concept. The former means the firm’s investment in current assets and later the excess of current assets over the current liabilities. Since the elements of working capital are short term in nature constant monitoring must be done for proper management. Working capital can also be defined as the working expenses that get blocked in current assets along the productive line of an enterprise. The Net Working Capital is that liquidity which takes care of the working expenses.

The working capital requirement of a firm will depend upon its operating cycle. It is a cycle having a continuous series of steps for conversion of sales into cash. The working capital is required maintaining its liquidity in day-to-day operation to ensure it’s smooth running and meets its obligation (Eljelly, 2004). Yet, this is not a simple task since managers must make sure that business operation is running in efficient and profitable manner. There are the possibilities of mismatch of current asset and current liability during this process. If this happens and firm’s manager cannot manage it properly then it will affect firm’s growth and profitability. This will further lead to financial distress and finally firms can go bankrupt.

Efficient management of working Capital is one of the pre-conditions for the success of an enterprise. Efficient management of working capital meansmanagement of various components of working capital in such a way that an adequate amount of working capital is maintained for smooth running of a firm. Anoptimal working capital management is expected to contribute positively to the creation of firm value. To reach optimal working capital management firmmanager should control the trade-off between profitability and liquidity accurately. The purpose of this study is to investigate the relationship between workingcapital management and firm’s profitability.

A firm should maintain adequate level of working capital to meet the current obligations and to maintain uninterrupted business operation. Firm should alwayskeep monitoring the liquidity position as it projects the company’s credit image. Lack of liquidity can create a bad image among the parties interested in thefirms functioning. Also firm must ensure that there should be a proper balance between current assets and current liabilities , as it can affect the profitability ofthe firm. Greater investment in idle current assets can result in decrease in profitability.

So the goal of working capital management is to ensure that the firm is able to continue its day-to-day operations and it has the sufficient ability to satisfy itspresent and future short term expenses. There should be proper proportion between the level of current assets and current liability. So an efficient workingcapital management will enable the concern to maintain a good balance between the liquidity and profitability. Ezra Solomon states that “ liquidity measures acompany`s ability to meet expected as well as unexpected requirement of cash to expand its assets, reduce its liabilities and cover up an operating losses”.

**1.2 Rationality of the Study**

Proper management of working capital is required to ensure that the firm is able to continue its day-to-day operations and it has the sufficient ability to satisfy it’s present and upcoming short term expenses. The working capital position helps the investors, creditors, bankers, suppliers, financial institutions, government etc. Judge the stability of the enterprise. The financial institutions and individuals may be interested in investing in that company which is financial strong tomeet its present and upcoming short term expenses. Well maintained working capital will help to create good creditors image, avoid unwanted borrowing, healthy government support etc. An efficient working capital management will only help a firm to compete in the present global market. Working capital is thelife blood and nerve centre of business. Just as circulation of blood is essential in the human body for maintaining life, working capital is very essential tomaintain the smooth running of the business. No business can run successfully without an adequate amount of working capital. Working capital plays a vital rolein the impact of the business. So there exist a number of implication and gaps for enquiry into working capital management of companies; against thisbackground a study was conducted on the Working Capital position of Square pharmaceuticals limited.

**1.3 Methodology of the Study**

In this study the sample company named Square pharmaceuticals limited has been taken for analysis of Working Capital position. Present study is based on secondary data i.e.published annual reports of the company. These financial data’s are edited, classified and tabulated as per the requirements of the study. This study has covered 10 years data’s from 2005 to 2014 for analyzing the Working Capital position of Square pharmaceuticals limited.

The Liquidity and Profitability position have been measured to analyze the Working Capital position of Square pharmaceuticals limited. The collected data have been analyzed bythe various ratios for finding liquidity and profitability. For assessing the behavior of above ratios, Spearman’s Rank Correlation Co-efficientand Student t-test has been used.

**1.4 Objectives of the Study**

The main objective of writing this report is to analyze the effect of working capital on a firm’s liquidity and profitability. The specific objectives can be stated as under:

1. To analyze the Working capital position of the firm.
2. To analyze the effect of risk on profitability.
3. To give suggestions on the basis of findings of the study.
4. To fulfill the partial requirements of BBA program.

**1.5 Literature Review**

Although working capital is an important ingredient in the smooth working of business entities, it has not attracted much attention of scholars. Whatever studies have conducted, those have exercised profound influence on the understanding of working capital management.

**Sagan in his paper (1955)**, perhaps the first theoretical paper on the theory of working capital management, emphasized the need for management of working capital accounts and warned that it could vitally affect the health of the company. He realized the need to build up a theory of working capital management. He discussed mainly the role and functions of money manager inefficient working capital management. Sagan pointed out the money manager’s operations were primarily in the area of cash flows generated in the course of business transactions. However, money manager must be familiar with what is being done with the control of inventories, receivables and payables because all these accounts affect cash position. Thus, Sagan concentrated mainly on cash component of working capital. Sagan indicated that the task of money manager was to provide funds as and when needed and to invest temporarily surplus funds as profitably as possible in view of his particular requirements of safety and liquidity of funds by examining the risk and return of various investment opportunities. He suggested that money manager should take his decisions on the basis of cash budget and total current assets position rather than on the basis of traditional working capital ratios. This is important because efficient money manager can avoid borrowing from outside even when his net working capital position is low. The study pointed out that there was a need to improve the collection of funds but it remained silent about the method of doing it. Moreover, this study is descriptive without any empirical support.

**Appavadhanulu (1971),** recognizing the lack of attention being given to investment in working capital, analyzed working capital management by examining the impact of method of production on investment in working capital. He emphasized that different production techniques require different amount of working capital by affecting goods-in-process because different techniques have differences in the length of production period, the rate of output flow per unit of time and time pattern of value addition. Different techniques would also affect the stock of raw materials and finished goods, by affecting lead-time, optimum lot size and marketing lag of output disposals. He, therefore, hypothesized that choice of production technique could reduce the working capital needs. He estimated the ratio of work-in-progress and working capital to gross output and net output in textile weaving done during 1960, on the basis of detailed discussions with the producers and not on the basis of balance sheets which might include speculative figures. His study could not show significant relationship between choice of technique and working capital. However, he pointed out that the idea could be tested in some other industries like machine tools, ship building etc. by taking more appropriate ratios representing production technique correctly.

The study by **R.N. Agarwal (1982),** estimated total inventory investment equation for individual firms in automobile manufacturing industry, which was divided into two sectors─ car-sector and non-car-sector. His study was based on the data for 1959-60 through 1978-79. Official Directory of Mumbai Stock Exchange had been the basic source of data. Analysis of two sector revealed that sales and stock-sales ratio were important explanatory variables. Cost of capital and trend were important in only car sector while fixed investment and flows of external funds were significant in non-car sector. Existing stock of inventories was statistically significant in both the sector but contrary to expectations, it possessed negative coefficient. Several other variables as dividends, capacity utilization and liquidity ratio were found to be of no importance in explaining inventory investment behavior.

**Shin and Soenen (1998),** suggested that efficient working capital management was very important for creating value for the shareholders. The way working capital was managed had a significant impact on both profitability and liquidity. Using correlation and regression analysis they justified the relationship between the length of net trading cycle, corporate profitability and risk adjusted stock return. They found a strong negative relationship between lengths of the firm’s net trading cycle and its profitability. In addition, they also found that shorter net trade cycles were associated with higher risk adjusted stock returns. Extensive research works on working capital management have been done in both public and private sectors.

**Sayaduzzaman (2006),** in his article on “Working Capital Management: A study on British American Tobacco Bangladesh Company Limited” mentions that the efficiency of working capital management of British American Tobacco Bangladesh Company Ltd. is highly satisfactory due to the positive cash inflows and planned approach in managing the major elements of working capital. He found that working capital management helps to maintain all around efficiency in operations.

**Padachi (2006),** find in his research study that a firm is required to maintain a balance between liquidity and profitability while conducting its day to day operations. The manager of a business entity is in a dilemma of achieving desired trade-off between liquidity and profitability in order to maximize the value of a firm.

**Ganesand (2007),** suggest that efficient working capital management increases firms’ free cash flow, which in turn increases the firms’ growth opportunities and return to shareholders.

**Raheman (2007),** studied the effect of different variables of working capital management including the Average Collection Period, Inventory Turnover in Days, Average Payable Period, Cash Conversion Cycle and Current Ratio on the Net Operating Profitability of Pakistani Firms. By using Pearson’s correlation and regression analysis he found that there was a strong negative relationship between variables of Working Capital Management and Profitability. He also finds that as the cash conversion cycle increases, it leads to decrease in profitability of the firm and managers can create a positive value for the shareholders by reducing the cash conversion cycle to a possible minimum level.

**1.6 Limitations of the Study**

The following are the limitation of the study:

1. The study covers only 10 years period i.e. 2005 to 2014 for the Working Capital analysis of Square pharmaceuticals limited.
2. The secondary data’s used in this study have been taken from published annual reports only.
3. Lack of experience in such type of research work.

**Chapter – 02**

**Organizational Overview**

**2.1 COMPANY HISTORY:**

Square Pharmaceuticals Ltd. or (SPL), a member of SQUARE Group, came into existence as a public limited company in 1976. It commenced commercial operation in 1980 and went for public issue of shares in 1985. The shares of company are listed with the Dhaka and Chittagong Stock Exchanges of Bangladesh. The total numbers of shareholders are 47,811 and the total numbers of employees are 1,328.

The company operates in a single industry segment. It has its own manufacturing facilities. The principal activities of the company are -manufacturing of formulation and sales drugs and sales of the produced itemshome and aboard. The overseas offices and associates of SPL are UK, USA, Pakistan, Myanmar, Singapore, Kenya, Yemen and the exports outlets are Bhutan, Georgia, Germany, Hong Kong, Iran, Iraq, Kenya, Malaysia, Myanmar, Nepal, Pakistan, Russia, Singapore, South Korea, Taiwan, Thailand, Ukraine, Vietnam and Yemen.

SPL is the leading pharmaceutical manufacturer in the country. It all began in 1580 when SPL’s first product made under license of Bayer AG, Germany rolled out of a small manufacturing plant in Tongi, Dhaka. Products made under license of Upjohn Incorporated, USA followed. After its initial years of struggle it broke ground with the launching of its own products in 1983. The journey continued and barrier after barrier were crossed, challenges were faced and overcome to transform SPL into what it is at present.

Today, SPL holds a 15% share in the domestic market after competing with such IfcAinational Giants as Welcome, Novartis, Hoecsht, Rhone Poulenc Rorer, Glaxo, ftsonsetc.

**2.2 COMPANY MISSION:**

Our Mission is to produce and provide quality & innovative healthcare relief for people, maintain stringently ethical standard in business operation also ensuring benefit to the shareholders, stakeholders and the society at large.

**2.3 COMPANY VISION:**

We view business as a means to the material and social wellbeing of the investors, employees and the society at large, leading to accretion of wealth through financial and moral gains as a part of the process of the human civilization.

“If there is one characteristic that has typified the SQUARE approach it is Vision to be the best of our nature and human resources. A vision to establish our group and country as a respected and valued regional presence.”

**2.4 COMPANY PROFILE:**

|  |  |
| --- | --- |
| **Corporate Headquarter** | **Mohakhali commercial Area, Dhaka-1212** , Bangladesh. |
| **Operational Headquarter** | DQUARE CENTER **48.Mohakhali commercial Area** |
| **Factory** | Shalgaria,Pabna Town,Pabna |
| **Year of Establishment Commercial Production Status** | 1958 |
| **Commercial Production** | 1958 |
| **Status** | Public Limited Company |
| **Business Line** | Manufacturing and marketing of pharmaceutical finished products and Active PharmaceuticalIngredients (APIs) |
| **Overseas Offices &Associates** | UK, USA, Pakistan, Myanmar, Singapore, Kenya, Yemen, Nepal ,CezchRepublic |
| **Export Markets**  **Authorized Capital (TK)**  **Paid-up Capital(TK)**  **Net Turnover 2007 (TK)**  **Number of Shareholders**  **Stock Exchange Listings**  **Number of Employees** | Bhutan, Cambodia, Germany, Hong Kong, Iran, Iraq, Malaysia, Russia, South Korea ,  Srilanka, Thailand, Ukraine, Vietnam |
|  | 1,000 million and 496.8 million  800 million47,811 Dhaka, Chittagong  1,328 |

**2.5 MAJOR ACHIEVEMENT OF THE COMPANY:**

* **1987:** Licensing Agreement signed with F. Hoffmann-La Roche Ltd., Switzerland
* **1988:** Achieved first position in the Pharmaceutical Market of Bangladesh among all national and multinational companies
* **1989:** Pioneer in pharmaceutical export from Bangladesh.
* **1990:** Converted in to a Public Limited Company.
* **1991:** Initial Public Offering of Square Pharmaceutical Shares.
* **1992:** Chemical Division of Square Pharmaceuticals Ltd. starts production of pharmaceutical bulk products (API).
* **1997:** Won the National Export trophy for exporting pharmaceuticals.
* **1998:** Agro-chemicals & Veterinary Products Division of Square Pharma starts its operation.
* **2010:** US FDA/UK MCA standard new Pharmaceutical factory goes into operation built under the supervision of Bovis Lend Lease, UK.
* **2011:** Signing of agreement with ROVIPHARM, Vietnam to manufacture and market Square products under license in Vietnam.
* **2012:** Secured the top position for the best published accounts and report for 2011 in the manufacturing category for transparency and excellence in corporate reporting
* **2013:** New State-of- the-Art Square Cephlosporins Ltd. goes into operation; built under the supervision of TELSTAR S.A. of Spain as per US FDA/ UK MHRA requirements.
* **2014:** Square Pharmaceuticals Ltd., Dhaka Unit gets the UK MHRA approval.
* **2014:** New SVPO (Small Volume Parenteralandi: Ophthalmics) plant starts operation in Dhaka Unit.

**Chapter – 03**

**Conceptual Framework**

**3.1 Working Capital Position**

The two concept of working capital are Gross Working Capital and Net Working Capital. The former means the firm’s investment in current assets and later the excess of current assets over the current liabilities. The excess of current assets over the current liabilities provides measures of safety margin available against uncertainty in realization of current assets and flow of funds.

**3.1.1 Current Ratio**

Current ratio is defined as the ratio of current assets to current liabilities. It is an index of technical solvency and an index of the strength of the working capital.

A high current ratio is an assurance that a firm will have adequate funds to pay current liabilities and other current payments. It can be calculated as follows:

**Current ratio (CR)= Current Assets/ Current liabilities**

**3.1.2 Liquid or Quick Ratio**

Liquidity ratio shows the relationship between liquid assets and current liabilities. It is the firm’s capacity to pay its obligation at time of emergency situation.

The ideal ratio is 1:1 Times. The ratio can be expressed as given below:

**Quick Ratio (QR) = Liquid Assets/Current liabilities**

Where Liquid Assets= Current Assets - (Stock +Prepaid Expenses)

**3.1.3 Cash Position Ratio**

It shows how much of total assets is kept in the form of cash is revealed through this ratio. How much per rupee of total assets is kept in the form of cash. Higherthe ratio shows less risk, but lower rate of return as cash by itself does not earn profit. The ratio can be denoted as given below:

**Cash Position Ratio (CPR) = (Cash + Cash Equivalents)/Total Assets**

**3.1.4 Working Capital Turnover Ratio**

Working capital turnover ratio reveals the overall picture of the operational capital necessary for maintaining a level of its sales. Higher ratio indicates quickconversion of working capital into sales. Also greater the ratio, shorter is the working capital cycle and better is working capital management. It can be expressedas follows:

**Working capital turnover ratio (WCTR) = Annual Sales/ Average Working Capital**

**3.1.5 Profitability ratio**

It indicates the percentage of return in the business. A high Return on Investment shows the company is having a higher rate of profit as percentage of capitalemployed. It is calculated as follows:

**Profitability ratio (PR) = (Operating Profit / Capital Employed) x 100**

**Chapter – 04**

**Analysis and Discussion**

* 1. **Working capital position**

**Table - I: Statement Showing Net Working Capital Position (Tk. in Millions)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Years** | **Current Assets** | **Current Liabilities** | **Net Working Capital** |
| 2005 | 14,636.67 | 8,327.02 | 6,309.65 |
| 2006 | 21,572.63 | 11,656.67 | 9,915.96 |
| 2007 | 22,324.13 | 14,085.16 | 8,238.97 |
| 2008 | 26,977.14 | 17,558.55 | 9,418.59 |
| 2009 | 28,752.58 | 22,719.39 | 6,033.19 |
| 2010 | 31,656.16 | 21,369.46 | 10,286.70 |
| 2011 | 41,396.84 | 29,607.57 | 11,789.27 |
| 2012 | 43,672.45 | 35,282.74 | 8,389.71 |
| 2013 | 43,038.86 | 48,431.40 | 5,392.54 |
| 2014 | 42,965.32 | 52,960.98 | 9,995.65 |
| **A.M. (X)** | **31,699.28** | **26,199.89** | **5,499.39** |
| **Avg. Annual Growth Rate** | **19.35** | **53.60** | **-25.84** |
| **Standard Deviation** | **10569.71** | **15247.36** | **7248.59** |

**Source: Annual report of Square Pharmaceuticals (2005 to 2014)**

**Interpretation:** Table I: Shows the working capital position of the concern. During the period of study working capital showed a fluctuating tendency. The highest value of working capital Tk.11,789.27 million was in 2009-2010 and least of Tk. -9,995.65 million in last year 2012-2013. The net working capital had an average value of Tk.54,99.38 million. The Gross Working capital of the firm had a mean value of Tk.31,699.28 million. Gross Working Capital was highest in 2010-11 and least in 2003-04 with values of Tk.14,636.67 Cores and Tk.9995.58 million respectively. The Current liability of the firm was highest in 2012-2013 with Tk.52,960.98 million and least in 2003-04 with Tk.8,327.02 million. The Gross working capital had an average annual growth rate of 19.35% and standard deviation of Tk.10569.71 million. The Net working capital of the firm had a negative average annual growth rate of -25.84% and a standard deviation of 7248.59.

* 1. **Current Ratio**

**Table - II: Statement Showing Current Ratio (Tk. in Millions)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Years** | **Current Assets** | **Current Liabilities** | **Current Ratio** |
| 2005 | 14,636.67 | 8,327.02 | 1.76 |
| 2006 | 21,572.63 | 11,656.67 | 1.96 |
| 2007 | 22,324.13 | 14,085.16 | 1.58 |
| 2008 | 26,977.14 | 17,558.55 | 1.54 |
| 2009 | 28,752.58 | 22,719.39 | 1.27 |
| 2010 | 31,656.16 | 21,369.46 | 1.48 |
| 2011 | 41,396.84 | 29,607.57 | 1.40 |
| 2012 | 43,672.45 | 35,282.74 | 1.24 |
| 2013 | 43,038.86 | 48,431.40 | 0.89 |
| 2014 | 42,965.32 | 52,960.98 | 0.81 |
| **A.M. (X)** | **31,699.28** | **26,199.89** | **1.38** |
| **Avg. Annual Growth Rate** | **19.35** | **53.60** | **-5.39** |
| **Standard Deviation** | **10569.71** | **15247.36** | **0.34** |

**Source: Annual report of Square Pharmaceuticals (2005 to 2014)**

**Interpretation:** Table II: Shows the current ratio as a measure of liquidity position. During the period of study it was observed that current ratio was above 1, except for the last two years. The highest ratio 1.85 times was observed in the year 2004-2005 and the least of 0.81 in the 2012-2013. The current assets and current liabilities showed a fluctuating trend throughout the study. The Average annual Growth rate of Current assets and Current liabilities was 19.35% and -5.39% respectively. The Current Ratio showed a varying trend with an average ratio of 13.81 times with an average annual growth rate of -5.39%. The standard deviation of the ratio was low with a value of 0.34.

* 1. **Liquid or Quick Ratio**

**Table - III: Statement of Liquid Assets to Current Liabilities (Tk. in millions)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Years** | **Liquid Assets** | **Current Liabilities** | **Liquid Ratio** |
| 2005 | 9,568.00 | 8,327.02 | 1.15 |
| 2006 | 15,892.00 | 11,656.67 | 1.36 |
| 2007 | 13,299.00 | 14,085.16 | 0.94 |
| 2008 | 16,274.00 | 17,558.55 | 0.93 |
| 2009 | 16,514.00 | 22,719.39 | 0.73 |
| 2010 | 18,356.00 | 21,369.46 | 0.86 |
| 2011 | 25,015.00 | 29,607.57 | 0.84 |
| 2012 | 21,584.00 | 35,282.74 | 0.61 |
| 2013 | 20,733.00 | 48,431.40 | 0.43 |
| 2014 | 24,006.00 | 52,960.98 | 0.45 |
| **A.M. (X)** | **18,124.10** | **26,199.89** | **0.83** |
| **Avg. Annual Growth Rate** | **15.08** | **53.60** | **62.17** |
| **Standard Deviation** | **4812.00** | **15247.36** | **0.29** |

**Source: Annual report of Square Pharmaceuticals (2005 to 2014)**

**Interpretation:** The above table III shows the liquidity ratio of the firm during the period of study. The ratio had the highest value of 1.36 times in the year 2004-05 and the least of 0.43 times in 2011-02. During the period of study this ratio also observed a fluctuating tendency. The liquid assets of the firm were highest in 2009-2010 and least in 2003-2004 with values of Tk. 25,015.00 million and `9,568.00 million respectively. The liquid assets had an average value of Tk. 1,81,24.10 million with an average annual growth rate of 15.08 %. The liquidity ratio had an average value of .83 times with an average annual growth rate of 62.17%. The standard deviation of the ratio was very low with a value of 0.29.

* 1. **Cash Position Ratio**

**Table - IV: Statement of Cash to Total Assets (Tk. in Millions)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Years** | **Cash & Equivalents** | **Total Asset** | **Cash Position Ratio (Times)** |
| 2005 | 3,249.74 | 25,313.69 | 0.128 |
| 2006 | 7,966.82 | 33,654.54 | 0.237 |
| 2007 | 6,028.76 | 36,852.79 | 0.164 |
| 2008 | 4,349.39 | 44,633.32 | 0.097 |
| 2009 | 4,513.70 | 55,399.52 | 0.081 |
| 2010 | 880.84 | 74,265.79 | 0.011 |
| 2011 | 5,189.21 | 92,768.68 | 0.056 |
| 2012 | 1,795.27 | 1,05,890.00 | 0.017 |
| 2013 | 325.56 | 1,19,157.47 | 0.003 |
| 2014 | 139.42 | 1,30,967.02 | 0.001 |
| **A.M. (X)** | **3,443.87** | **72,290.28** | **0.080** |
| **Avg. Annual Growth Rate** | **-9.57** | **41.73** | **-9.921** |
| **Standard Deviation** | **2627.15** | **38339.19** | **0.078** |

**Source: Annual report of Square Pharmaceuticals (2005 to 2014)**

**Interpretation:** The above table IV shows the cash generating capacity of the total assets of the firm. Cash position ratio also showed similar fluctuating tendency like the above ratios. It had a mean value of 0.08 times with an average annual growth rate of -9.92%. The highest ratio of 0.237 times was observed in 2004-2005 and least of 0.001 in 2012-2013. The firm maintained the highest cash of Tk. 7,966.82 million in 2004-2005 and the least of 139.42 in 2006-07. Cash had an average value of Tk.3443.87 million with an average annual growth rate of -9.57%. The Total Assets of the firm had a mean value of Tk.72,290.28 million with an average annual growth rate of 41.73%. Total Assets of the firm was highest in 2012-13 and least in 2012-13 with values of Tk.1,30,967.02 million and Tk. 25,313.69 million. The ratio had a very low degree of standard deviation with value of 0.14.

**4.5 Working capital turnover ratio**

**Table - V: Statements of Annual sales to Working Capital (Tk. in Millions)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Years** | **Average Annual sales** | **Working Capital** | **Working capital turnover ratio (Times)** |
| 2005 | 35,006.34 | 6,309.65 | 5.55 |
| 2006 | 43,692.78 | 9,915.96 | 4.41 |
| 2007 | 54,321.95 | 8,238.97 | 6.59 |
| 2008 | 71,789.13 | 9,418.59 | 7.82 |
| 2009 | 48,888.10 | 6,033.19 | 8.10 |
| 2010 | 78,068.94 | 10,286.70 | 7.59 |
| 2011 | 72,696.19 | 11,789.27 | 6.17 |
| 2012 | 99,831.02 | 8,389.71 | 11.90 |
| 2013 | 13,720.81 | -5,392.54 | -2.54 |
| 2014 | 13,298.56 | -9,995.65 | -1.33 |
| **A.M. (X)** | 53,131.38 | 5,499.39 | 5.41 |
| **Avg. Annual Growth Rate** | 6.2 | -25.84 | -12.39 |
| **Standard Deviation** | 28107.94 | 7248.59 | 4.36 |

**Source: Annual report of Square Pharmaceuticals (2005 to 2014)**

**Interpretation:** The above table V shows the sales generated per amount of working capital of the firm. This Ratio also showed a fluctuating tendency during the period of study. The Ratio had an average value of 5.41 times with a negative average annual growth rate of -12.39%. Net Working Capital turnover ratio observed the highest value of 11.90 times in 2010-11 and least of -2.54 times in 2011-2012. The highest average sales of `99,831.02 million was in 2010-2011and the least of `13,298.56 million in 2012-2013. Average annual sales had a mean value of `53,131.38 million with an average annual growth rate of -6.2%. The Ratio had a high standard deviation of 28107.94.

**Analysis of Liquidity, Profitability and Risk Using Spearman’s Rank Correlation**

Spearman’s rank correlation is the relationship between different rankings of the same set of items. A rank correlation coefficient measures the degree of similarity between two rankings, and can be used to assess its significance.

 r_s = {1- \frac {6 \sum d_i^2}{n(n^2 - 1)}}.

Where, D= R1-R2, R= Rank

t = r \sqrt{\frac{n-2}{1-r^2}}

Where,

r = Spearman’s Rank Coefficient of Correlation

n = No. Observation

**Table - VI: Statement Showing Profitability (Tk. in Millions)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Years** | **Total Assets (TA)** | **Current Liabilities (CL)** | **Capital Employed (TA-CL)** | **Operating Profit** | **ROCE%** |
| 2005 | 25,313.69 | 8,327.02 | 16,986.67 | 3,072.51 | 18.09 |
| 2006 | 33,654.54 | 11,656.67 | 21,997.87 | 3,578.08 | 16.27 |
| 2007 | 36,852.79 | 14,085.16 | 22,767.63 | 4,687.53 | 20.59 |
| 2008 | 44,633.32 | 17,558.55 | 27,074.77 | 6,098.38 | 22.52 |
| 2009 | 55,299.52 | 22,719.39 | 32,680.12 | 5,190.50 | 15.88 |
| 2010 | 78,265.79 | 21.369.46 | 56,896.33 | 3,087.05 | 5.43 |
| 2011 | 92,768.68 | 29,607.57 | 63,161.11 | 6,259.05 | 9.91 |
| 2012 | 1,05,890.00 | 35,282.74 | 70,607.26 | 9,654.61 | 13.67 |
| 2013 | 1,19.157.47 | 48,431.40 | 70,726.07 | 9,452.30 | 13.36 |
| 2014 | 1,19,157.02 | 52,960.98 | 78,006.04 | 8,475.92 | 10.87 |
| **A.M. (X)** | **72,290.28** | **26199.89** | **46,090.39** | **5,955.59** | **14.66** |
| **Avg. Annual Growth Rate** | **41.73** | **53.60** | **35.92** | **17.58** | **6.64** |
| S.D ( ) | **38339.20** | **15247.36** | **23915.68** | **2511.33** | **4.88** |

**Source: Annual report of Square Pharmaceuticals (2005 to 2014)**

**Interpretation:** Table VI: During the period of study the operating profit ratio showed a fluctuating trend. The operating profit ratio had the highest value of 22.52% in 2006-07 and the least of 5.43% in 2008-09. The operating profit ratio had a mean value of 14.66% with an average annual growth rate of 3.91%. The Standard Deviation of the ratio was moderate with a value of 4.88. The firm employed the highest amount of capital Tk.78,006.04 million in 2012-13 and least of Tk.16,986.67 million in 2003-04. The Capital employed of the firm had a mean value of Tk.46,090.39 million with an average annual growth rate of 35.92%.

**Table - VII: Statement for Calculation of Correlation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Years** | **Current Ratio** | **R1** | **ROCE** | **R2** | **D=(R1-R2)** | **D2** |
| 2005 | 1.75 | 2 | 18.09 | 3 | -1 | 1 |
| 2006 | 1.85 | 1 | 16.27 | 4 | -3 | 9 |
| 2007 | 1.58 | 3 | 20.59 | 2 | 1 | 1 |
| 2008 | 1.53 | 4 | 22.52 | 1 | 3 | 9 |
| 2009 | 1.26 | 7 | 15.88 | 5 | 2 | 4 |
| 2010 | 1.48 | 5 | 5.43 | 10 | -5 | 25 |
| 2011 | 1.39 | 6 | 9.91 | 9 | -3 | 9 |
| 2012 | 1.23 | 8 | 13.67 | 6 | 2 | 4 |
| 2013 | 0.88 | 9 | 13.36 | 7 | 2 | 4 |
| 2014 | 0.81 | 10 | 10.87 | 8 | 2 | 4 |
|  |  |  |  |  |  | 70 |

**Interpretation:** Table VII: The current ratio is used as an indicator of liquidity and ROCE as for measuring profitability. The Spearman’s rank coefficient of correlation(r) between Current Ratio and ROCE has been shown for which the relevant formula has been used. The test used for determining significance of r is “t” test. The Spearman’s rank coefficient of correlation (r) between ROCE & liquidity has been calculated. The “t” test is applied for determining significance of r. Then computed value of ‘t’ has been compared with the tabulated value of ‘t’. In the above table r= 0.58 and value of t = 2.03. The table value of ‘t’ at 5% level of significance for 8 degrees of freedom (Where n=10) is equal to 2.305. Since the computed value of t is less than the table value the null hypothesis (Ho) is accepted.

**Profitability and Risk Analysis**

The risk associated with the concern can be calculated by the following method:

**Rk = [(E+ LTL) – FA] / CA**

Where,

Rk = risk

E = Equity + Reserve % Surplus

L = Long term loan

FA = Fixed Assets

CA = Current assets

In the aggressive approach the current assets are financed by short term sources and in case of conservative approach the current assets are financed by both long term and short term sources. The risk faced by the firm can be measured with the above formula

**Table – VIII: Statement Showing Risk**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Years** | **Equity + Reserve &Surplus (E)RS** | **Long term loans (L)** | **Fixed Assets (FA)** | **Current Assets (CA)** | **Risk (Rk)** |
| 2005 | 10,517.97 | 4,989.08 | 9,211.00 | 14,636.37 | 43.02 |
| 2006 | 11,678.65 | 8,804.06 | 9,790.01 | 21,572.63 | 49.57 |
| 2007 | 14,124.53 | 6,919.28 | 10,846.88 | 22,324.13 | 45.68 |
| 2008 | 18,945.68 | 6,403.98 | 15,445.24 | 26,977.14 | 36.71 |
| 2009 | 21,489.83 | 8,875.01 | 20,547.95 | 28,752.58 | 34.14 |
| 2010 | 34,738.99 | 19,581.44 | 43,974.06 | 31,656.16 | 32.68 |
| 2011 | 36,687.58 | 22,038.92 | 48,110.29 | 41,396.84 | 25.64 |
| 2012 | 39,629.62 | 25,682.65 | 49,917.58 | 43,672.45 | 35.25 |
| 2013 | 42,123.26 | 22,933.51 | 60,773.82 | 43,038.86 | 9.95 |
| 2014 | 44,441.05 | 48,616.16 | 64,625.38 | 42,965.32 | 66.43 |
| **A.M. (X)** | **27,448.71** | **1,74,484.41** | **3,33.242** | **31,699.28** | **37.91** |
| **Avg. Annual Growth Rate** | **413.57** | **964.45** | **691.61** | **19.35** | **144.41** |
| **Standard Deviation** | **13397.35** | **13462.84** | **22271.20** | **10569.71** | **14.97** |

**Source: Annual report of Square Pharmaceuticals (2005 to 2014)**

**Interpretation:** Table VIII: shows the measure of liquidity. During the period of Study concern’s highest risk of 66.43% generated a return of 10.87% and the least risk of 43.02% generated a return of 18.09%. The risk taken by the company showed a variation in its value with deviation of 144.41. The average risk taken by the company was 37.91% with an average annual growth rate of 144.41.

**Table - IX: Statement for Calculation of Correlation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Years** | **Risk (Rk)** | **R3** | **ROCE%** | **R4** | **D=(R3-R4)** | **D2** |
| 2005 | 43.02 | 4 | 18.09 | 3 | 1 | 1 |
| 2006 | 49.57 | 2 | 16.27 | 4 | -2 | 4 |
| 2007 | 45.68 | 3 | 20.59 | 2 | 1 | 1 |
| 2008 | 36.71 | 5 | 22.52 | 1 | 4 | 16 |
| 2009 | 34.14 | 7 | 15.88 | 5 | 2 | 4 |
| 2010 | 32.68 | 8 | 5.43 | 10 | -2 | 4 |
| 2011 | 25.64 | 9 | 9.91 | 9 | 0 | 0 |
| 2012 | 35.25 | 6 | 13.67 | 6 | 0 | 0 |
| 2013 | 9.95 | 10 | 13.36 | 7 | 3 | 9 |
| 2014 | 66.43 | 1 | 10.87 | 8 | -7 | 49 |
|  |  |  |  |  |  | 88 |

**Interpretation:** Table IX: The Spearman’s rank coefficient of correlation (r) between ROCE & Risk Factor has been calculated. The “t” test is applied for determining significance of r. Then computed value of ‘t’ has been compared with the tabulated value of ‘t’. In the above table r= 0.47 and value of t = 4.27 The table value of ‘t’ at 5% level of significance for 8 degrees of freedom (Where n=10) is equal to 2.305. Since the computed value of t is greater than the table value the null hypothesis (Ho) is rejected.

**5.1 FINDINGS**

Findings regarding various aspects of working capital on firm’s profitability and liquidity square Pharmaceuticals Ltd. is presented below:

* The Net working Capital of Square pharmaceutical limited during the period of study was not satisfactory as it showed a decreasing trend in its values.
* Liquidity position of the firm was not adequate because the average value of this Current Ratio was 1.38 times which is not near to the ideal ratio of 2:1 times. This indicates that, it is not in a position to meet its short term obligations with the existing current assets.
* The cash position ratio of the firm was also satisfactory as it was able to generate adequate amount of cash from its assets. The average value of the ratio was only 0.80 times.
* During FY 2012-13, the economy experienced a low growth rate of about 5 to 5.5%. Industrial sectors, too, continued to reel under the severe slowdown. The financial crunch and slowdown of economy overall global economic situation, impacted Square pharmaceutical limited international volumes this year. Company exported 8,778 vehicles in 2013-14, 32% lower than the previous year.
* Company’s profitability remained subdued due to lower volumes. The general economic slowdown adversely impacted the volumes. Company managed to contain material cost at about the previous year levels and granting increases only for unavoidable reasons like power tariff increases, etc.
* The Spearman’s rank coefficient of correlation (r) between ROCE & liquidity has been calculated. The “t” test is applied for determining significance of r. Then computed value of ‘t’ has been compared with the tabulated value of ‘t’. Since the computed value of t is less than the table value the null hypothesis (Ho) is accepted. So there is no significant difference between liquidity and profitability of the firm during the period of study.
* The Spearman’s rank coefficient of correlation (r) between ROCE & Risk Factor has been calculated. The “t” test is applied for determining significance of r. Then computed value of ‘t’ has been compared with the tabulated value of ‘t’. Since the computed value of t is greater than the table value the null hypothesis (Ho) is rejected. So there is significant difference between risk and profitability of the firm during the period of study

**5.2 RECOMMENDATIONS**

The following suggestion can be made in order to improve the working capital problem:

* The Company must try to improve net working capital position in future. Square pharmaceutical limited must try to keep regular check, whether its current liabilities are exceeding the gross working capital of the firm.
* So the firm must stabilize the position of its current assets to maintain a current ratio of at least the ideal value.
* The firm must try to keep regular check on its assets to identify whether they are staying idle or obsolete. Only the liquid cash will help the firm to face any uncertainties at the times of depressions.
* Improvement of productivity through work-study and training of front line supervisors.
* Contribution analysis for each of the product lines to optimize profit in light of demand factors.
* Effects to bring selling prices in line with costs having regard to competition and other market factors.
* They have to be more careful about utilization of working capital.
* Close attention should be given to inventories and debtors.
* Rationality and planning in materials purchases to avoid unnecessary inventory build-up or shortage of materials.

**5.3 CONCLUSION**

While analyzing the company’s performance it is clear that, the firm give little importance to the issues related with working capital. It may be of the reason that the amount and risk involved in capital investment decision are very high. But from the above study we can say that Square pharmaceutical limited should give due consideration to improve the working capital management policies irrespective of the economic slow-down. The company must improve its present liquidity position to remain stable at the time of discrepancies or recession. It should also try to generate higher returns from its assets. The company must keep an optimum balance between liquidity and profitability for efficient use of its working capital. At the same time it should not stop formulating certain policies to keep a well-monitored working capital for better profitability, stability, reliability, growth and consistency.

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