ANALYSIS OF WORKING CAPITAL MANAGEMENT OF SELECTED CORPORATE HOSPITALS IN INDIA

Dr. A. Muthusamy, M.Com ., MBA., M.Phil ., CGT., PGDCA., Ph.D.,

Assistant Professor,

Department of International Business and Commerce

Alagappa University, Karaikudi.4, Tamilnadu .

ABSTRACT

Hospitals are an important component of healthcare service delivery system. Government of India has initiated many reforms to promote the private hospital sector and it is being projected as one of the fastest growing sector. The private capital investment in this sector has increased over the years. The private capital investment in this sector has increased over the years. But still most of the hospitals are privately owned and very few corporate hospitals have raised capital from markets by issuing shares and very few hospitals are listed in stock exchanges. Working capital can be utilized for the payment of lease, employee's payroll, and to meet the operating costs that are involved in the everyday life of business. Even very successful business owners may need working Capital funds when the unexpected circumstances arise. The overall success of the Company depends upon its working capital position. So, it should be handled properly because it shows the efficiency and financial strength of company.

INTRODUCTION

The working capital is the life-blood and nerve centre of a business firm. The importance of working capital in any industry needs no special emphasis. No business can run effectively without a sufficient quantity of working capital. It is crucial to retain right level of working capital. Working capital management is one of the most important functions of corporate management. Working capital can be utilized for the payment of Lease, employee's payroll, and pretty much any other operating costs that are involved in the everyday life of business. Even very successful business owners may need working Capital funds when the unexpected circumstances arise. The overall success of the Company depends upon its working capital position. So, it should be handled properly because it shows the efficiency and financial strength of company. Efficient management of working capital means management 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 and for fulfillment of objectives of liquidity and profitability.

Hospitals are an important component of healthcare service delivery system. Government in India has initiated many reforms to promote the private hospital sector and it is being projected as one of the fastest growing sector. The private capital investment in this sector has increased over the years. But still most of the hospitals are privately owned and very few corporate hospitals have raised capital from markets by issuing shares and very few hospitals are listed in stock exchanges. It is recognized that raising capital directly from markets is an important source of risk capital. This also ensures market discipline, better financial management practices and implementation of good corporate governance mechanisms.

IMPORTANCE OF THE STUDY

In today's Health care environment the practice of measuring the performance of Hospital care, a set of quality indicators has become an important part of hospital business and is set to even become more crucial in the near future. Critical care units play a vital role in current Health Care system and represent the apex of technical advancements in medicine. Private hospitals provide about 60% of all outpatient care in India and as much as 40% of all inpatient care. It is estimated that nearly 70% of all hospitals and 40% of hospital beds in the country are in the private sector. However in order to become efficient and competitive, the Private hospitals have to upgrade their infrastructure. They should provide cost-effective medical services of international standard at affordable prices. Thus the growing pressure for cost-reduction and better treatment lead to a need for the development of optimization-based approaches to assess the efficiency of the healthcare institutions.

The private capital investment in this sector has increased over the years. But still most of the hospitals are privately owned and very few corporate hospitals have raised capital from markets by issuing shares and very few hospitals are listed in stock exchanges.

This study indicates the strength and weaknesses of working capital Performance of the selected Corporate Hospitals in India. In this paper analysis the overall efficiency of Working capital through Performance Index, Utilization Index and Efficiency Index of selected Corporate Hospitals in India during the study period of five years taking from March 2009 to March 2013.

SAMPLING DESIGN

The sample corporate hospitals are selected on the basis of convenient sampling method. A sample of four hospitals has been selected on the basis of availability of data and also these four corporate hospitals are the main largest service providers in India.

The following Corporate Hospitals have been selected for the study

i. Apollo Enterprises Hospitals (AEH)

ii. Fortis Malar Hospitals (FMH)

iii. Kovai Medical Center and Hospitals (KMCH)

iv. Lotus Eye Care Hospitals (LECH)

The pragmatic importance of working capital management in finance, an attempt is made in this study to look into the working capital management of four Selected Corporate Hospitals in Tamil Nadu. For measuring the overall efficiency of working capital management, in following three ways

- Performance Index
- Utilization Index
- Efficiency Index

Performance Index

In case of working capital management, Performance Index (PI) denotes average performance index of the various components of current assets. The working capital management may be said efficient if the proportionate rise in sales is more than the proportionate rise in current assets during a particular period. Logically, overall performance index more than one indicates efficient management of working capital. The Performance index has been calculated by using the following formula:

PIMWC = [Σ Mi (t-1)/ Mi t]/ N × IT …… (1)

Where, I T = turnover index or sales index defined as St / S (t-1)

Mi = Individual group of current assets.

N = No. of current assets in the group.

and I = 1, 2……. N.

Utilization Index

On the other hand, Utilization Index (UI) indicates the ability of the firm in utilizing its current assets as a whole for the purpose of generating sales. This ultimately reflects the operating cycle of the firm, which can be shortened by means of increasing the degree of utilization. Thus, a value of UI greater than one is always desirable from the management of a company. The Utilization Index (UI) has been calculated by using the model:

UIMWC = R (t-1)/ R t …… (2)

Where, R = Current Assets / Sales.

Efficiency Index

The Efficiency Index (EI) measures the ultimate efficiency in working capital management of a concern. Since, it has been derived by multiplying the PI and UI, a value more than one will obviously indicate a good sign regarding the working capital management. Actually the ultimate efficiency of working capital management depends on both the PI and UI and not solely on one of them. The Efficiency Index has been calculated as:

EIMWC = PIMWC × UI MWC …….. (3)

COMPUTATION OF PERFORMANCE INDEX (PI), UTILIZATION INDEX (UI) AND EFFICIENCY INDEX (EI) OF THE SELECTED CORPORATE HOSPITALS IN INDIA

Table 1

APOLLO HOSPITAL ENTERPRISES for the year from 2008-2009 to 2012-2013

(Rs. In Crores)

Items of Current Assets	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**
Inventories	218.68	191.54	155.70	138.62	133.73
Sundry Debtors	473.30	386.73	280.05	209.28	164.22
Cash & Bank Balances	320.06	236.84	107.01	183.42	55.11
Loan& Advances	556.32	677.28	565.58	535.82	370.55

Total Index	1568.36	1492.39	1108.34	1067.14	703.61
Average Index	392.09	373.09	277.08	266.78	175.90
Turnover Index	15.17	2.34	14.97	13.17	12.81
PI ('000)	16.675	17.087	10.464	23.086	26.543
UI	0.304	0.295	0.237	0.294	0.226
EI	5.64	2.25	2.08	2.92	1.43

Source: Computed

The data presented in the table 1 reveals that the Performance Index, Utilization Index and Efficiency Index of the Apollo Hospital Enterprises in the year from 2008-2009 to 2012-2013. In this study, the PI for Apollo Hospital Enterprises is more than one in three accounting periods out of five accounting years; it is highest in the year 2012-2013. The performance index was 26.543 and lowest in the year of 2010-2011 of the PI was 10.464.So, the overall performance of the Apollo Hospital Enterprises reflects a satisfactory position over the study period so for as the PI is concerned.

In the initial year 2008-2009 the Utilization Index of Apollo Hospital was 0.304.After that the next two years 2009-2010 and 2010-2011 the UI decreased to 0.295 and 0.237. During the period from 2011-2012 and 2012-2013 the UI performance is fluctuating trend.

The Efficiency Index for Apollo Hospital is more than one in three accounting periods out of five accounting years. It is highest in the year 2012-2013 of the efficiency index was 5.64 and lowest in the year of 2008-2009 of the EI was 1.43. So, the overall performance of the Apollo Hospital indicates a quite satisfactory position during the study period.

Table 2

FORTIS MALAR HOSPITAL for the year from 2008-2009 to 2012-2013

(Rs.In crores)

Items of Current Assets	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Inventories	0.39	0.51	0.42	0.58	0.47
Sundry Debtors	3.21	3.59	6.12	7.45	2.99
Cash & Bank Balances	2.92	0.63	0.32	0.22	1.54
Loan& Advances	65.86	73.78	10.43	9.86	10.98
Total Index	72.38	78.51	17.49	18.11	15.98
Average Index	18.09	19.62	4.37	4.52	3.99
Turnover Index	250.25	185.88	198.26	110.58	70.85
PI ('000)	0.05	0.10	0.15	0.24	0.72
UI	0.12	0.04	0.06	0.08	0.15
EI	4.12	4.67	6.10	4.08	7.05

Source: Computed

The data presented in the table 2 reveals that the Performance Index, Utilization Index and Efficiency Index of the Fortis Malar Hospital in the year from 2008-2009 to 2012-2013. In this study, the PI for Fortis Malar Hospital is more than one in four accounting periods out of five accounting years; it is highest in the year 2012-2013 of the performance index was 0.72 and lowest in the year of 2008-2009 of the PI was 0.05.So, the overall performance of the Fortis Malar Hospital reflects a satisfactory position over the study period so for as the PI is concerned.

In the present study, the UI for Fortis Malar Hospital in the year from 2008-2009 to 2012-2013 of five accounting period. In the initial year 2008-2009 the Utilization Index of Fortis Malar Hospital

was 0.12. After that the next three years 2009-2010 to 2011-2012 the UI continuously decreased to 0.08. In the last year 2012-2013 the UI performance is increased to 0.15.

In this study, the EI for Fortis Malar Hospital in the year from 2008-2009 to 2012-2013 of five accounting period. The Efficiency Index for Fortis Malar Hospital is more than one in 3 accounting periods out of 5 accounting years. It is highest in the year 2012-2013 of the efficiency index was 7.05 and lowest in the year of 2008-2009 of the EI was 4.12. So, the overall performance of the Fortis Malar Hospital which indicates a quite satisfactory position during the study period.

Table 3

LOTUS EYE CARE HOSPITALS for the year from 2008-2009 to 20012-2013

(Rs.In crores)

Items of Current Assets	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**
Inventories	0.58	0.58	0.30	0.16	0.08
Sundry Debtors	1.01	1.11	1.41	0.50	0.10
Cash & Bank Balances	2.99	0.13	0.09	0.09	0.19
Loan & Advances	2.09	0.63	4.01	6.24	0.23
Total Index	6.67	2.41	5.81	6.99	0.6
Average Index	1.66	0.60	1.45	1.74	0.15
Turnover Index	383.39	323.40	433.56	689.75	1094.25
PI('000)	0.03	0.05	0.06	0.08	0.15
UI	0.33	0.42	0.68	2.13	2.27
EI	0.01	0.02	0.03	0.17	1.07

Source: Computed

The data presented in the table 3 reveals that the Performance Index, Utilization Index and Efficiency Index of the Lotus Eye Care Hospitals in the year from 2008-2009 to 2012-2013. In this study, the PI for Lotus Eye Care Hospitals is more than one in 4 accounting periods out of 5 accounting years; it is highest in the year 2012-2013 of the performance index was 0.15 and lowest in the year of 2008-2009 of the PI was 0.04. So, the overall performance of the Lotus Eye Care Hospitals reflects a satisfactory position over the study period so for as the PI is concerned.

In the present study, the UI for Lotus Eye Care Hospitals in the year from 2008-2009 to 2012-2013 of five accounting period. In the initial year 2008-2009 the Utilization Index of Lotus Eye Care Hospitals was 0.33.After that the next two years 2009-2010 and 2010-2011 the UI performance is year after year, fluctuating trend. In the next two years 2011-2012 and 2012-2013 the UI performance is increased to 2.13 and 2.27.

In this study, the EI for Lotus Eye Care Hospitals in the year from 2008-2009 to 2012-2013 of five accounting period. The Efficiency Index for Lotus Eye Care Hospitals is more than one in 4 accounting periods out of 5 accounting years. It is highest in the year 2012-2013 of the efficiency index was 1.07 and lowest in the year of 2008-2009 of the EI was 0.01. So, the overall performance of the Lotus Eye Care Hospitals indicates a quite satisfactory position during the study period.

Table 4

KOVAI MEDICAL CENTER AND HOSPITAL for the year from 2008-2009 to 2012-2013

(Rs.In crores)

Items of Current Assets	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**
Inventories	7.26	5.76	5.00	3.95	4.00
Sundry Debtors	6.15	2.33	4.32	3.28	3.25
Cash & Bank Balances	1.45	4.29	1.56	0.76	2.42
Loan & Advances	12.33	7.10	7.95	14.92	15.29
Total Index	27.55	19.59	18.83	22.91	24.96

Average Index	6.88	4.89	4.70	5.72	6.24
Turnover Index	30.62	30.31	26.01	27.93	21.88
PI	0.29	0.35	0.28	0.38	0.41
UI	0.39	0.24	0.22	0.23	0.29
EI	0.09	0.08	0.06	0.14	0.08

Source: Computed

The data presented in the table 4 reveals that the Performance Index, Utilization Index and Efficiency Index of the Kovai Medical Center and Hospital in the year from 2008-2009 to 2012-2013. In this study, the PI for Kovai Medical Center and Hospital is more than one in 4 accounting periods out of 5 accounting years; it is highest in the year 2012-2013 of the performance index was 0.41 and lowest in the year of 2011-2012 of the PI was 0.28. So, the overall performance of the Kovai Medical Center and Hospital reflects a satisfactory position over the study period so for as the PI is concerned.

In the present study, the UI for Kovai Medical Center and Hospital for the year 2008-2009 to 2012-2013 of five accounting periods . In the initial year 2008-2009 the Utilization Index of Kovai Medical Center and Hospital was 0.39.After that the next two years 2009-2010 and 2010-2011 the UI performance is year after year, fluctuating trend. In the next two years 2011-2012 and 2012-2013 the UI performance is decreased to 0.23 and 0.29.

In this study, the EI for Kovai Medical Center and Hospital in the year from 2008-2009 to 2012-2013 of five accounting period. The Efficiency Index for Kovai Medical Center and Hospital is more than one in 4 accounting periods out of 5 accounting years. It is highest in the year 2011-2012 of the efficiency index was 0.14 and lowest in the year of 2010-2011 of the EI was 0.06. So, the overall performance of the Kovai Medical Center and Hospital indicates a quite satisfactory position during the study period.

CORRELATION ANALYSIS BETWEEN THE EFFICIENCY IN WORKING CAPITAL MANAGEMENT AND THE PROFITABILITY OF THE SELECTED CORPORATE HOSPITALS IN INDIA

Correlation Analysis of the Apollo Hospital Enterprises

The following tables 5 highlight the Correlation between ROCE and PI, UI, and EI and find out the 't' value .To test the Apollo Hospital Enterprises during the period 2008-2009 to 2012-2013.

Table 5

Correlation Analysis in Apollo Hospital Enterprises for the year from 2008-2009 to 2012-2013

Years	2008 -09	2009 -10	2010 -11	2011 -2012	2012 -13	Correlation Coefficient (r)	Calculate Value of \t\
PI	16.675	17.087	10.464	23.086	26.543	0.606	1.321
UI	0.304	0.295	0.237	0.294	0.226	0.982	8.984
EI	5.64	2.25	2.08	2.92	1.43	0.088	0.153
ROCE	10.90	11.57	13.03	14.04	13.13	---	---

Source: Computed

The data presented in the Table 5 reveals that there are positive associations between ROCE and PI, UI and EI for the Apollo Hospital Enterprises during the period under study. Out of the three indices of measuring the efficiency of working capital management, the value of correlation coefficient between ROCE and PI and UI and EI for the Apollo Hospital Enterprises are positive in nature.

Correlation Analysis of the Fortis Malar Hospitals

The following tables 6 highlight the Correlation Analysis and Value of 't' test of the Fortis Malar Hospitals during the period 2008-2009 to 2012-2013.

Table 6

Correlation analysis in Fortis Malar Hospitals

Years	2008 - 09	2009-10	2010- 11	2011-12	2012-13	Correlation Coefficient (r)	Calculate Value of \t\
PI	0.05	0.10	0.15	0.24	0.72	0.376	0.758
UI	0.12	0.04	0.06	0.08	0.15	0.694	1.666
EI	4.12	4.67	6.10	4.08	7.05	0.673	1.575
ROCE	1.17	19.76	28.49	27.96	12.63	---	---

Source: Computed

The data presented in the Table 6 reflects that there are positive associations between ROCE and PI, UI and EI for the Fortis Malar Hospitals during the period under study.

Correlation Analysis of the Lotus Eye Care Hospitals

The following tables 7 highlight the Correlation Analysis and Value of 't' test of the Lotus Eye Care Hospitals during the period 2008-2009 to 2012-2013.

Table 7

Correlation Analysis in Lotus Eye Care Hospitals

Years	2008 -2009	2009-10	2010-11	2011-12	2012-13	Correlation Coefficient (r)	Calculate value of \t\
PI	0.03	0.05	0.06	0.08	0.15	0.460	1.009
UI	0.33	0.42	0.68	2.13	2.27	0.674	1.579
EI	0.01	0.02	0.03	0.17	1.07	0.768	2.075
ROCE	8.59	0.21	0.21	9.98	19.59	---	---

Source: Computed

The data presented in the Table 7 reflects that there are positive associations between ROCE and PI, UI and EI for the Lotus Eye Care Hospitals during the period under study.

Correlation Analysis of the Kovai Medical Centre and Hospitals

The following tables 8 highlight the Correlation Analysis and Value of 't' test of the Kovai Medical Centre and Hospitals during the period 2008-2009 to 2012-2013

Table 8

Correlation Analysis in Kovai Medical Centre and Hospitals

Years	2008 - 2009	2009-10	2010-11	2011-12	2012-13	Correlation Coefficient (r)	Calculate value of \t\
PI	0.29	0.35	0.28	0.38	0.41	0.994	21.20
UI	0.39	0.24	0.22	0.23	0.29	0.999	39.27
EI	0.09	0.08	0.06	0.14	0.08	0.904	3.669
ROCE	15.44	15.44	13.02	12.31	22.23	---	---

Source: Computed

The data presented in the Table 4.8.1 reflects that there are positive associations between ROCE and PI, UI and EI for the Kovai Medical Centre and Hospitals during the period under study.

$$\text{Formula used for calculating } |t| = \frac{r \times \sqrt{(n-2)}}{\sqrt{(1-r^2)}} \text{ With (n-2) d. f.}$$

Note: (i) Tabulated value of 't' with (n-2) d .f. i.e., 3 d. f. both at 5% and 1% levels of significance for both tailed tests are 2.57 and 4.03 respectively.

(ii) Since, the calculated value of \t\ correlation between UI and ROCE for the Selected Corporate Hospitals is higher than the tabulated value of 't' at 5% level. So the value of correlation coefficient between these hospitals are significant at 5% level, except this in all other cases, the calculated values of \t\ are less than the tabulated values of 't' with d. f., so the correlation coefficients are statistically insignificant both at 5% and 1% levels of significance.

CONCLUSION

Hospitals are an important component of healthcare service delivery system. Government of India has initiated many reforms to promote the private hospital sector and it is being projected as one of the fastest growing sector. The private capital investment in this sector has increased over the years. But still most of the hospitals are privately owned and very few corporate hospitals have raised capital from markets by issuing shares and very few hospitals are listed in stock exchanges. The private sector investment and the quantum of money required in this sector critically hinges on the financial risks and returns the sector offers to the providers of capital. The problems of this study suggest issues for performance management, quality improvement and further scrutiny; however, they need to be interpreted with caution. Private hospitals can provide the required healthcare services to India's growing population. In addition, they can be a major medical tourism destination for treating patients from other countries also.

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