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Efficiency of Managing Working Capital in Indigo Airlines: An Empirical Assessment

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Abstract

Managing working capital is one of the major decision areas of corporate financial management. In fact, without the efficient management of working capital, it is next to impossible for a company even belonging to the airlines sector to generate its surplus. So, if the company shows inefficiency in managing its working capital, it cannot survive in the long run. Thus, in today's challenging and competitive business environment, efficient management of working capital is recognized as an integral component of overall corporate strategy to create shareholders' value. Though a very few studies on the different financial aspects of Indigo, the market leader of the Airlines sector, were carried out in the last few years, no noticeable research attempt was made to address the issue associated with the analysis of the working capital management efficiency of Indigo. In this backdrop, an effort was made in the present paper to make an empirical assessment of the efficiency of working capital management of Indigo during the period 2007-08 to 2018-19. While tackling the issue, relevant statistical measures were applied at appropriate places.

I. Introduction: In today's challenging and competitive business environment efficient management of working capital (WC) is an integral component of overall corporate strategy to create shareholders' value. In fact, the progress of a company is largely dependent on the skillful utilization of its WC. Thus efficiency with which WC is managed in a company is of great significance for its overall well being. In airline companies also, the management of WC is considered as an extremely crucial decision area of financial management. Without managing efficiently both short term assets and liabilities, the companies are not able to engage themselves in achieving the wealth maximization objective. Indigo Airlines is the largest company in Indian Airlines Sector in respect of passengers carried and fleet size. It started its business operations on 4th August, 2006. This company has captured 47.5% domestic market share as of November, 2019. In the financial year 2018-19, Indigo has generated revenue of Rs. 298.2 billion and earned profit of Rs.1.6 billion by carrying 64 million passenger. The company has total assets of Rs. 250 billion as on 31st March, 2019. About 23,530 employees engage themselves in Indigo Airlines. Presently, this company has become the largest individual Asian low cost carrier in terms of jet fleet size and passenger carried and the sixth largest carrier in Asia. Indigo operates 1500 flights everyday to 62 domestic and 24 international destinations. Though a very few studies on the different financial aspects of Indigo Airlines have been carried out in the last few years , no significant study has so far been made on the working capital management (WCM) of Indigo Airlines. In this backdrop, the present study seeks to analyse the efficiency of WCM of Indigo during the period 2007-08 to 2018-19.

II. Review of Related Literature:

Kesavan (2015) conducted a study on the WCM of Aviation Industry with special reference to Spicejet Airlines during the period 2009 to 2014. In order to measure the WC position and overall financial health of the selected company, working capital statement and ratio analysis technique were used. The study revealed that the WC position as well as the overall financial health of the company were not at all satisfactory during the period under study. The study recommended the management of Spice Jet airline to make effective utilization of cash and bank balances for its higher profitability.

Jain and Natarajan (2015) in their study investigated the technical and scale efficiencies of all airlines across service type, size and ownership structure operating in India during the period 2006 to 2010. In this study the variable returns to scale (VRS) model of Data Envelopment Analysis (DEA) with two inputs and two outputs as well as the Input Efficiency Profiling (IEP) model of DEA were used. The study revealed that a large majority of budget airlines, smaller private sector airlines and the larger as well as smaller public sector airlines were found to be efficient during the period under study.

Dhanda and Sharma (2018) in their study made a comparative analysis of the operating efficiency of Air India and Indigo Airlines for the period 2004-05 to 2015-16 using ratio analysis, mean, standard deviation, co-efficient of variation and compound annual growth. The study revealed that the operating efficiency of Indigo Airlines was better as compared to Air India during the period under study.

Kalpana and Muthusamy (2018) carried out a study in which the WCM of three selected airline companies was analysed for the period 2010-11 to 2016-17 by using various standard ratios. Relevant statistical tools were used in analysing and interpreting the data. The study also used Y-score model to assess WCM efficiency. The study revealed that all the selected companies performed well in managing their WC during the period under study.

Ali and Divya (2019) conducted a comparative study on the extent of impact of changes in WC on financial health of Air India and Indigo Airlines during the period 2011-12 to 2016-17. The study found that the performance of Indigo Airlines was far better as compared to Air India during the period under study.

Muthu and Devi (2019) conducted a study on the WCM of Jet Airways and Indigo Airways for the period 2013-14 to 2017-18. In this study the efficiency of WCM was ascertained using ratio analysis technique. The study concluded that the performances of both the airline companies were satisfactory during the period under study

Based on the review of the studies mentioned above, it was found that some studies on the different financial issues associated with Airlines companies in India were carried out during the past decade while a very few studies on the WCM of Airlines companies in India were conducted in the same period. However, no significant study was made in the recent past on the efficiency of WCM of Indigo Airlines, the market leader of the Indian Aviation sector. So, in order to bridge the gap, the present study was conducted.

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III. Objective of the study: The objectives of the present study were:

i)To analyse the efficiency of managing WC of the company and its components.

ii) To ascertain the status of the overall WCM efficiency of the company.

iii) To measure the extent of relationship between the efficiency of managing the selected components of WC and profitability of the company.

iv) To examine whether there was any significant relationship between the efficiency of overall WC management of the company and its profitability.

IV. Methodology

The data of Indigo Airlines for the period 2007-08 to 2018-19 were collected from secondary sources, i.e. Capitaline Corporate Database of Capital Market India Pvt. Ltd., Mumbai. While analyzing the data simple statistical tools like mean, consistency coefficient (i.e. ratio of mean to standard deviation) etc., statistical techniques, such as Spaceman's rank correlation coefficient, time series analysis etc. and statistical test like t test were used at appropriate places.

V. Empirical Results and Discussion

Table I

Analysis of Selected Ratios indicating Efficiency of Working Capital Management of Indigo				
YEAR	**WCTR**	**DTR**	**CTR**	**ITR**
2007-08	2.98	69.54	2.31	28.2
2008-09	-7.90	254.85	5.85	66.19
2009-10	74.68	144.35	8.67	76.56
2010-11	-24.54	220.88	4.94	97.42
2011-12	10.12	200.24	4.25	121.39
2012-13	41.37	171.32	6.86	185.38
Average	**16.12**	**176.86**	**5.48**	**95.86**
CC	**0.45**	**2.72**	**2.50**	**1.78**
Slope	**4.194**	**12.046**	**0.406**	**27.782**
t-value	**0.446**	**0.738**	**0.739**	**7.381***
2013-14	-11.68	141.04	10.09	185.94
2014-15	348.22	143.8	6.96	127.15
2015-16	13.69	123.37	4.34	135.14
2016-17	16.17	117.67	4.01	148.49
2017-18	9.69	119.58	3.50	132.92
2018-19	7.45	96.8	3.31	144.41
Average	**63.93**	**123.71**	**5.37**	**145.68**
CC	**0.46**	**7.19**	**2.02**	**6.87**
Slope	**-26.213**	**-8.559**	**-1.275**	**-5.057**
t-value	**4.105***	**5.066***	**4.022***	**0.997**

Source: Computed from the data collected from Capitaline Corporate Database.

WCTR: It measures the efficiency of WC management of the company. The higher the value of WCTR, the higher is the efficiency of managing WC of the company. Table I shows that the mean and CC of WCTR of the company were 16.12 and 0.49 respectively in the first half of the study period whereas the average and CC of WCTR of the company were 63.93 and 0.46 respectively in the second half of the study period. It indicates that though the consistency of WCM efficiency of the company stood almost on the same point, the average efficiency in managing WC of the company was considerably higher in the second half as compared to the first half of the period under study. However the slopes of the WCTR of the company exhibited completely opposite picture of the performance of the company's WC management. The slope of WCTR of the company was positive (4.19) in the first half of the study period which was not found to be statistically significant while it was negative (-26.21) in the second half of the period under study which was found to be statistically significant at 5 per cent level.

DTR: This ratio indicates how well receivables are turning into cash. It reflects the efficiency of the credit and collection policies adopted by the firm. Usually, the higher DTR is preferred as it indicates the company's efficiency to collect its receivables. A higher ratio means that the company is collecting cash more frequently and has a good quality of debtors. So, the higher the efficiency of debtor management the higher is the liquidity of the company. Table I depicts that the mean and CC of DTR of the company were 176.86 and 2.72 respectively in the first half of the study period whereas those were 123.71 and 7.19 respectively in the second half of the period under study. It implies that the consistency of efficiency of receivables management of the company was more than double in the second half as compared to first half of the period under study whereas the average efficiency in managing receivables of the company was considerably higher in the second half as compared to first half of the study period. However the slopes of the DTR of the company showed reverse picture of the performance of the company. The slope of DTR of the company was positive (12.046) in the first half of the study period which was not found to be statistically significant while it was negative (-8.559) in the second half of the period under study which was found to be statistically significant.

CTR: It measures the frequency of company's cash account replenishment through the sales revenue. Generally, a high cash turnover ratio implies a high degree of efficiency in cash management whereas a low ratio reflects inefficiency in managing cash. The higher the efficiency of cash management, the more favorable is the status of the company from the viewpoint of its liquidity. Table I reveals that the mean and CC of the CTR of the company were 5.48 and 2.50 respectively in the first half of the study period whereas those were 5.37 and 2.02 respectively in the second half during the period under study. It shows that the average efficiency of WCM of the company and its consistency were found same in both halves of the period under study. However the slopes of the CTR of the company depict completely opposite picture of the performance of the company. The slope of the CTR of the company was found positive in first half (0.406) and negative second (-1.275) in second half which was found to be statistically significant at 5 per cent level during the study period.

ITR; This ratio measures how fast the inventory is moving through the company and generating sales. A high inventory turnover ratio is good from the liquidity point of view and implies sound inventory management whereas a low ratio signifies excessive inventory level than warranted by volume of operation indicating inefficiency in the inventory management. Table I shows that the mean and CC of ITR of the company were 95.86 and 1.78 respectively in the first half of the study period whereas those of ITR of the company were 145.68 and 6.87 respectively in the second half of the period under study. It indicates that in respect of both average and consistency of managing inventory of the company was considerably higher in the second half as compared to the first half of the period under study. However the result obtained from the trend analysis of ITR of the company mismatches with the outcome derived from the description statistics of the ITR of the company during the study period. The slope of the ITR of the company was positive (27.782) in the first half of the study period which was found to be statistically significant at 5 per cent level whereas it was negative (-5.057) in the second half which was not found to be statistically significant even at 5 per cent level.

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Table II

Computation of Final Ranks based on Selected Working Capital Management Efficiency Indicators of Indigo

Year	DTR	CTR	ITR	Rank of DTR	Rank of CTR	Rank of ITR	Sum of Ranks	Final WCM Efficiency Rank(WCMER)	Average WCM Efficiency Rank
2007-08	69.54	2.31	28.2	12	12	12	**36**	**12**	
2008-09	254.85	5.85	66.19	1	5	11	**17**	**5**	
2009-10	144.35	8.67	76.56	5	2	10	**17**	**5**	**6**
2010-11	220.88	4.94	97.42	2	6	9	**17**	**5**	
2011-12	200.24	4.25	121.39	3	8	8	**19**	**7**	
2012-13	171.32	6.86	185.38	4	4	2	**10**	**2**	
2013-14	141.04	10.09	185.94	7	1	1	**9**	**1**	
2014-15	143.8	6.96	127.15	6	3	7	**16**	**3**	
2015-16	123.37	4.34	135.14	8	7	5	**20**	**8**	**7**
2016-17	117.67	4.01	148.49	10	9	3	**22**	**9**	
2017-18	119.58	3.50	132.92	9	10	6	**25**	**10**	
2018-19	96.8	3.31	144.41	11	11	4	**26**	**11**	

Source: Computed from the data collected from Capitaline Corporate Database.

In Table II an attempt was made to ascertain the status of the company in terms of the efficiency of its WCM more precisely during the study period by applying composite rank approach. While measuring the composite efficiency ranks of the WC of the company over the period under study, the individual rank of DTR, CTR, and ITR were considered. In case of DTR, CTR or ITR, a high value indicates favorable position and ranking was done accordingly. The ultimate WCM efficiency rank was ascertained on the basis of the principle that the lower the sum of individual ranks of DTR, CTR and ITR, the higher is the efficiency. Table II discloses that the efficiency of managing WC of the company was the highest in the year 2013-14 and it was followed by the years 2012-13, 2014-15, 2010-11, 2009-10, 2008-09, 2011-12, 2015-16, 2016-17, 2017-18, 2018-19 and 2007-08 respectively in that order. However in the years 2010-11, 2009-10 and 2008-09 the company stood on the same point in respect of efficiency of WCM of the company. The average WCM efficiency rank in the first half of the study period was 6 per year whereas it was 7 per year in the second half of the study period.

Table III

Analysis of Correlation between Profitability and Selected Working Capital Management Efficiency Indicators of Indigo				
Correlation Measure	**Between ROCE and WCTR**	**Between ROCE and DTR**	**Between ROCE and CTR**	**Between ROCE and ITR**
Spearman's Rank Correlation Coefficient	0.212	0.273	0.303	-0.121

Source: Computed from the data collected from Capitaline Corporate Database.

In Table III an effort was made to measure the extent of relationship between efficiency of managing the selected components of WC and profitability of the company by applying Spearman's rank correlation coefficient. In this analysis DTR, CTR and ITR were used as the indicators of debtor's management efficiency, cash management efficiency and inventory management efficiency while ROCE was considered as the profitability measure. In order to examine whether the computed values of correlation coefficients were statistically significant or not, t-test was used. Table III shows that the Spearman's rank correlation coefficients between DTR and ROCE (0.273), between CTR and ROCE (0.303) and between ITR and ROCE (-0.121) were not found to be statistically significant at 5 per cent level. It reveals that all the major components of WC failed to establish any significant relationship with the profitability of the company during the period under study

Table IV

Analysis of Correlation between Profitability and Efficiency of Managing Working Capital of Indigo		
Correlation Measure	**Between ROCE and WCMER**	**Between ROCE and WCTR**
Spearman's Rank Correlation Coefficient	-0.387	0.301

Source: Computed from the data collected from Capitaline Corporate Database.

In Table IV it was attempted to examine whether there was any notable relationship between the efficiency of WC management of the company and its profitability. For the purpose of conducting this examination Spearman's rank correlation coefficient was used. In this analysis final WC efficiency ranks (as ascertained in Table II) and profitability rank based on ROCE were considered. In order to examine whether the computed value of Spearman's rank correlation coefficient was statistically significant or not t-test was used. Table IV shows that the computed value of Spearman's rank correlation coefficient was 0.331 which was not found to be statistically significant even at 5 per cent level. It implies that no noticeable relationship between WC management efficiency and profitability of the company was observed during the study period.

VI. Concluding Observations:

i) Though an insignificant positive trend in the overall efficiency of managing WC of Indigo Airlines was found in the first half of the study period, a noticeable declining trend in it was observed in the second half of the same period. The credit management and cash management of the company were responsible for the above mentioned results as the inefficiency of both the credit and cash management stepped up significantly in the second half of the period under study.

ii) The efficiency of managing WC of the company was the highest in the year 2013-14 and it was followed by 2012-13, 2014-15, 2010-11, 2009-10, 2008-09, 2011-12, 2015-16, 2016-17, 2017-18, 2018-19 and 2007-08 respectively in that order. The average WCM efficiency ranks of the company were 6 per year and 7 per year in the first half and second half of the study period respectively. It confirms a clear deterioration in the efficiency of WCM of the company with the passage of time during the period under study.

iii) The WCM of the company failed to establish any notable association with its profitability during the study period.

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