



The Study of Working Capital Strategies in Life Cycle of Companies

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Abstract: In the present challenging economy with increasing environmental pressures and limited foreign resources, current assets and debts have i.e. companies' working capital have become very important, and optimal management of such a capital can be deemed as one their competitive advantages. The basic subject of this article is to study the study of working capital strategies in life cycle of companies. In order to investigate the effect of working capital management including current assets and debts on companies life cycle (here the only stages of grown up and maturity). The research is of applied type in view of objectives, and descriptive-correlative in view of data collection. The data were collected from library and the second hand data were gathered from stocks market. The data analysis was done by descriptive-deductive statistical methods. Ratio test was used to test research hypotheses and then regression method was used to study the control variables. T-test was used to study the effect of the type of company's growth on the research variables. The findings revealed that most companies in grown up stage are more audacious and financial managers of the companies in grown up stage are more conservative.

Keywords: Current asset, current debt, working capital, life cycle of companies.

INTRODUCTION

Now a days, financial management plays a special role in promotion of organizations efficiency. So, making financing decisions and investment are the 2 main duties of financial mangers which are very peculiar. According, working capital management which controls current resources and utilizations is of high importance in organizational processes. Working capital entails a huge part of capital in organization, particularly smaller ones, and it is managed according to management mechanisms of supply chain elements. Active working capital management is deemed a necessity for organizations' compatibility in a challenging economy, and it aims at establishing a fine balance between saving liquidity for protection of daily operations and maximizing short term investment

opportunities. Filbeck et.al mentioned the reduction the mid of 2000 to show the key role of an efficient working capital management in achieving a healthy cash flow. They believed that the companies with weak working capital management will gradually lose their competitive advantages and flexibility¹. Smith believed that working capital management is of high importance due to its impact on companies risk and profit and then their value, because investment in working capital includes profitability and risks. On the contrary, decisions on risk reduction will lead to potential profitability reduction.

Theoretical definition

Working capital management

Working capital is a part of company capital which plays a critical role in its life¹. Generally, working capital refers to current or short term assets of companies including cash; receive able accounts, balances, and saleable bonds. Net working capital is a part of current assets which is supplied by long term resources and current asset is the result of current debts and is applied as an appropriate factor in studying and assessing liquidity power of the company versus repayment of current debts². Working capital is deemed as main assets of economic institutes and units which play a significant role in making financial decisions. Qualitative and quantitative development of trading activities leads to qualitative and quantitative development of financial management.

The continuity of economic institutes activities is related to a great extent to the management of their short term resources, because operational activities during a normal period (usually one year) is linked to understanding working capital and their proper management. The results will be obtaining the expected outcomes and possibly continuing long activities³.

Effective factors in working capital

Four main factors are explained here and the remaining ones are briefly introduced.

Cash management

Cash management strategies are determined in companies based on 2 things: Providing cash for company's payment, and 2. Minimizing stagnant stock in the company.

Polak and Kocurek mention management objectives as liquidity increase, cash flow control, capital value increase, and capital expenses cost decrease. It can be figured out that appropriate and optimal cash management affect working capital management in an organization, because it impacts the time of claims collection and debts repayment, and maintains them in an optimal level.

Debt ratio

The total funds supplied from debts are calculated by this ratio, and is found by dividing total debts to total assets. Chiou and Chang found by studying the effective factors in capital management that debt ratio has a negative meaningful

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relation with net liquidity, working capital and its management; the higher the debt ratio is, the less working capital is needed for daily operations of an organization.

Operational cash flow

Chiou and Chang⁴ found in their study on the impact of operational cash flow on working capital management that operational cash flow has positive meaningful relation with net liquidity balance and a negative meaningful relation with working capital management requirements. So, it affects management in organizations.

The objectives of working capital policies

The company's policies for working capital management should be made according to the 3 objectives below:

1. **Appropriate and adequate liquidity:** The Company faces perpetual problems unless it has adequate liquidity for repayment of its debts at maturity dates.
2. **Minimizing risks:** The cost of short term loans and others short term debts are lower when the finance resources are chosen. However, care should be taken by the company not to make short term liabilities more than its existing current assets.
3. **Maximizing the rights of shareholders:** The Company should avoid keeping extra current assets or inconsumable fixed assets and do the following to

Maximize the company value:

1. Investment of extra funds
2. Maintenance of goods inventory proper with sales
3. Proper program for claims collection
4. Avoiding application of financial resources with high interest

Cost and unnecessary loans

Types of working capital

Working capital consists of two different parts :

1. **Fixed working capital:** It includes cash funds, receivable accounts and goods inventory which are kept in a certain level for daily operations.
2. **Variable working capital:** It refers to extra assets which are required in certain times of the year, for example keeping extra inventory for the purpose of protection during market development. Receivable accounts also increase in this period and a good financial planning should be made for its control. Extra cash is also needed for production increase⁵.

Company's life cycle

All living creatures including herbs, animals, and humans follow the life curve life cycle. Living systems have certain behavior models in each stage of their life cycle to overcome the problems of that period. These problems are related to the transfer from one period to another. Company life cycle theory assumes that economic companies and institutes like all living creatures are born, grown up and die and have life cycle. Diagram 1 depicts the relation between controllability and

flexibility in trading units. These policies are reflexed in companies accounting data.

Researchers define 5 stages for companies' life cycle:

- Start up or emerging state
- Grown up or growth stage
- Maturity or stability stage
- Decline or stagnation stage
- Bankruptcy stage

In start up stage, assets level is very low. Cash flow of operational activities and profitability is low. Companies need high liquidity for financing and growth fulfillment. In this stage, innovation is formed. Companies do their best, create information, and increase their share of market the ratio of dividend is usually zero or maximum 10%.

In grown stage, the company's size is larger than start up stage. Sales and income value is also more than the start up. Financial resources are more invested in productive assets. The company is more flexible in liquidity indexes. Dividend rate in this kind of companies is usually fluctuating in 10% and 50%. Companies have optimistic expectations about their capabilities (such as expenses structures and competitive advantage. They make huge investment in this stage which are not just in financial or visible assets and include organizational capital (such as investment in distribution systems and production infrastructures) and technological abilities⁶.

In maturity stage, companies experience balanced and fixed sales. Their cash requirement is mostly supplied through internal resources. Their asset value is relatively higher than grown up stage. The dividend ratio in such companies fluctuates between 50% and 100%.

In decline stage, there are few growth opportunities. Profitability, liquidity, liabilities obligations indexes have descending trend. Companies are cautions in very critical competitive situations. They have high financing expenses from external resources so that local return rate is less than financing rate. According to competitive advantages analysis maturity stage inevitably leads to decline so that companies can resume their activities by changing their structure. In this stage, financing cost from external resources is very high so that investment return or balanced investment return is less than financing rate.

In bankruptcy stage, each company can enter bankruptcy from any of previous stages. Moreover, if companies' attempts for competitive adaptations or innovations in previous stages are not successful, they enter bankruptcy stage⁷.

Review of literature

Ogundipe, et al. ⁸ studied the effect of working capital management on performance and value of admitted companies in Nigerian stocks market between 1995-2009. The results showed a negative meaningful relation between transformation cycle of cash and market value and corporate performance. They

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also found that debt ratio has a positive meaningful relation with sales market and negative relation with corporate performance.

Saghir et al.² studied the effect of working capital management on profitability of admitted companies in Karachi stocks market 2001-2006. In this research, assets return and transformation cycle with its forming elements was used as corporate performance and working capital management respectively. Their findings show a negative meaningful relation between profitability and transformation cycle to cash funds .

Nilsson⁹ studied the effect of companies' special features on working capital management in Swedish companies. He used transformation cycle to cash funds as working capital management and profitability, operational cash turnover, company size, sales growth, current ratio, immediate ratio, debt ratio as certain features of companies. Their findings show that only profitability, operational cash turnover, company size, and sales growth are influential in working capital management .

Jenkins et al.¹⁰ studied the impact of company's life cycle on the level of relativity of profit components. Their findings show various amount of profit components relativity depending on each stage the company is placed in.

Torghheh¹¹ studied the relation between working capital management and assets return of small and average size companies in Tehran stock market. His findings show a reverse relation between collection period payment and receipt, turnovers period, transformation to cash period, and companies' profitability. He also found a direct relation between debt payment period and profitability.

MATERIALS AND METHODS

Based on its objective, this research is of applied type, and of correlation type in view of data collection. Descriptive and deductive statistics method was used for data analysis. Ratio test was applied for research hypotheses, and regression test was used to study control variables. Indeed, (t) student statistics was accuracy of the research hypotheses testing. T test was used to study the effect of growth type in research variables. SPSS software version 17 is used to test hypotheses and complementary tests to make sure of regression model and data analysis.

RESULTS

The study of descriptive statistics of research parameters

The table 1 shows that total average of accumulated profit variable =701642; growing companies average =-381316.2 and for grown companies =1759415. The average of accumulated profit for growing companies is lesser than grown companies.

Also, total average for current asset =3717067.4; average of growing companies =1777831.7; and for grown companies =5611204.6. In general, accumulative profit, current asset, total asset, current debt, assets return ratio,

companies' size and current size and current assets of grown companies are statistically larger than growing companies. The more a company is matured regarding its life cycle, the more conservative it becomes due to the companies life cycle, because the companies try to maintain their stability and resistance in this stage in order to reach bankruptcy stage much later. The companies in grown up stage are larger than matured companies in view of net profit, financial lever and current debts. It shows the risk taking feature of their managers because they look for more risks in order to achieve more market share and more profit.

Table 1. The indexes descriptive statistics of research parameters

	Accumulated profit	Current asset	Total asset	Current debt	Net profit	Asset return	Financial lever	Company size	Asset index	Current debt index
Total	85	85	85	85	85	85	85	85	85	85
Average	701642.0	3717067.4	6935273.8	4319074.4	896130.2	0.08	0.64	14.07	0.64	0.64
Mean	91451.6	724897.2	1459513.4	1075686.7	90427.6	0.05	0.62	14.19	0.59	0.62
SD	5350063.6	12180051.6	23729171.9	14682792.1	4726309.4	0.12	0.35	1.73	0.36	0.35
Growing	42.0	42.0	42.0	42.0	42.0	42	42	42	42	42
Average	381316.2	1777831.7	3798669.5	2457309.5	107355.9	0.05	0.66	13.18	0.62	0.66
Mean	9915.3	401223.1	508694.2	332403.8	14636.4	0.04	0.63	13.14	0.61	0.63
SD	2273810.3	6923882.5	13510147.2	10681855.6	381584.3	0.08	0.25	1.69	0.22	0.25
Grown	43.0	43.0	43.0	43.0	43.0	43	43	43	43	43
Average	1759415.1	5611204.6	9998933.8	6137542.4	1666560.9	0.10	0.62	14.93	0.67	0.62
Mean	262399.8	1304847.4	3277372.0	1641844.8	175880.7	0.11	0.56	15.00	0.59	0.65
SD	7062642.9	15571601.8	30471645.1	17689876.1	6580577.5	0.15	0.43	1.27	0.46	0.43

Statistical study of research hypotheses

1- The companies in growth stage make more conservative decisions on current assets.

To study the above hypothesis among 42 companies in grown up stage: 12 companies have more conservative policies regarding current debts, and 30 companies have more audacious policies regarding current assets. Double phrase ratio test was used to study if these 2 groups have meaningful difference. The following results were obtained by this test:

Table 2. Ratio test for the study of policy ratio in the 2 groups

Current debt policy			
Groups	Number	Ratio of each group	Meaningfulness level
Audacious	30	0.71	0.008
Conservative	12	0.29	
Total	42	1.00	

As meaningfulness level is 0.008 and this value is less than 0.05, it is concluded that zero hypothesis of equal ratios of the 2 policies is rejected, and the

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controversial hypothesis i.e. in equal ratios are accepted. The above table shows higher ratio of audacious companies.

The companies in grown up stage have more conservative policies regarding current assets.

To study the above hypothesis 43 companies in maturity stage were selected. 31 of these companies make more conservative decisions. For current assets and 21 of them make more audacious decisions for current assets. The double phrase ratio was used to find if there is a meaningful difference between these 2 groups. The following results were obtained:

Table 3. Ratio test to study the policy ratio in the 2 corporate groups

Current debt policy			
Groups	Number	Ratio of each group	Meaningfulness level
Audacious	31	0.72	0.005
Conservative	12	0.28	
Total	43	1.00	

As meaningfulness level is 0.005 which is less than 0.05, it is revealed that zero hypothesis of equal ratio of the policies is rejected and their ratio inequality is confirmed. Therefore, the ratio of conservative companies is meaningfully higher.

To study the effect of controlling variables on working capital policies for assets, regression method was used and the following results were found:

Table 4. Descriptive statistics of regression

Correlation coefficient	Determination	Justified determination
0.452	0.205	0.165

The above table shows that correlation coefficient between dependent variables and a working capital policy is 0.452; determination coefficient is 0.205 which means 20.5% of working capital policies is defined by dependent variables.

Table 5. Adequacy index of regression model

	Total squares	Freedom	Squares	F	Meaningfulness level
Regression	4.35	4.00	1.09	5.14	0.001
Remaining	16.90	80.00	0.21		
Total	21.25	84.00			

In the above table the meaningfulness level is 0.001 that is less than 0.05 which means the regression model between dependent variables and independent ones is proper.

Table 6. Regression coefficients and statistics related to Meaningfulness of coefficients

	B	Std. Error	Beta	t	Sig.
Fixed coefficient	2.048	0.426		4.809	0.000
Growth	-0.470	0.119	-0.470	-3.966	0.000
Assets return ratio	0.518	0.434	0.123	1.194	0.236
Financial lever	0.060	0.145	0.042	0.416	0.678
Company size	0.005	0.034	0.019	0.160	0.873

According to the above table, the growth variable has only the meaningfulness level of less than 0.05. So, only variable of growth is influential in working capital policies and other variables are not much effective. The regression model is: working capital policies = 2.048 - 0.470 (growth)

Those corporates in grown up stage, make more conservative decisions on their current assets.

To study the above hypothesis 42 companies in maturity stage were selected. 14 of these companies make more conservative decisions. For current assets and 28 of them make more audacious decisions for current assets. The double phrase ratio was used to find if there is a meaningful difference between these 2 groups. The following results were obtained:

Table 7. Ratio test to study policy ratio in the 2 groups of corporates

Current debt policy			
Groups	Number	Ratio of each group	Meaningfulness level
Audacious	28	0.67	0.044
Conservative	14	0.33	
Total	42	1.00	

As meaningfulness level is 0.044 which is less than 0.05, it is revealed that zero hypothesis of equal ratio of the policies is rejected and their ratio inequality is confirmed. Therefore, the ratio of audacious companies is meaningfully higher.

The companies in maturity stage of their life cycle make more conservative decisions for their current debts. To study the above hypothesis 43 companies in maturity stage were selected. 25 of these companies make more conservative decisions. For current assets and 18 of them make more audacious decisions for current assets. The double phrase ratio was used to find if there is a meaningful difference between these 2 groups. The following results were obtained:

Table 8. Ratio test to study the policy ration in the 2 groups of corporates

Current debt policy			
Groups	Number	Ratio of each group	Meaningfulness level
Audacious	25	0.58	0.360
Conservative	18	0.42	
Total	43	1.00	

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The meaningfulness level of 0.360 which is less than 0.05 in above table shows that zero hypothesis of equality in the ration of the 2 policies is confirmed.

To study the effect of controlling variables on working capital policies for assets, regression method was used and the following results were found:

Table 9. Descriptive statistics of regression

Correlation coefficient	Determination	Justified determination
0.501	0.251	0.214

The above table shows that correlation coefficient between dependent variables and a working capital policy is 0.501; determination coefficient is 0.251 which means 25.1 of working capital policies is defined by dependent variables.

Table 10. Adequacy index of regression model

	Total squares	Freedom	Squares	F	Meaningfulness level
Regression	5.30	4.00	1.33	6.71	0.000
Remaining	15.80	80.00	0.20		
Total	21.11	84.00			

In the above table the meaningfulness level is 0.001 that is less than 0.05 which means the regression model between dependent variables and independent ones is proper.

Table 11. Regression coefficients and statistics related to
Meaningfulness of coefficients

	B	Std. Error	Beta	t	Sig.
Fixed coefficient	1.208	0.412		2.934	0.004
Growth	-0.238	0.115	-0.239	-2.079	0.141
Assets return ratio	-0.974	0.420	-0.232	-2.321	0.023
Financial lever	0.467	0.140	0.326	3.341	0.001
Company size	0.033	0.033	0.115	1.018	0.312

According to the above table for the regression coefficient of independent or controlling variable shows that meaningfulness level is higher than 0.05 only for company size. Not only company but also other variables are effective in working capital policies. The regression equation is:

Working capital policies = 1.208 - 0.238 (growth) - 0.974 (assets return ratio) + 0.467 (financial lever)

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- The companies in growth up stage of their life cycle make more conservative decisions.

To study the above hypothesis 42 companies in maturity stage were selected. 14 of these companies make more conservative decisions. For current assets and

28 of them make more audacious decisions for current assets. The double phrase ratio was used to find if there is a meaningful difference between these 2 groups. The following results were obtained:

Table 12. Ratio test to study the policy ratio in the 2 corporate groups

Working capital policy			
Groups	Number	Ratio of each group	Meaningfulness level
Audacious	28	0.67	0.044
Conservative	14	0.33	
Total	42	1	

As meaningfulness level is 0.044 which is less than 0.05, it is revealed that zero hypothesis of equal ratio of the policies is rejected and their ratio inequality is confirmed. Therefore, the ratio of conservative companies is meaningfully higher.

The companies in maturity stage of their life cycle make more conservative decision.

To study the above hypothesis 43 companies in maturity stage were selected. 23 of these companies make more conservative decisions. For current assets and 20 of them make more audacious decisions for current assets. The double phrase ratio was used to find if there is a meaningful difference between these 2 groups. The following results were obtained:

Table 13. Ratio test to study the policy ratio in the 2 corporate groups

Working capital policy			
Groups	Number	Ratio of each group	Meaningfulness level
Audacious	23	0.53	0.761
Conservative	20	0.47	
Total	43	1	

As the meaningfulness level is 0.761 that is less than 0.05; so, the zero hypothesis of equal ration between the 2 policies is confirmed and the controversial hypothesis is rejected. The ratio shows equal ratio for both audacious and conservative companies and the policies of matured companies is moderate.

DISCUSSION

From the perspective of finance, one of the main subjects in supply chain management is working capital which brings up great profit if managed well. It is of very high importance particularly for small size 3 companies whose most capital consists of current debts, because such polices manage companies' financial interactions with suppliers and purchasers in supply chain. In the present research, first the life cycle of companies is studied in view of current assets and debts policies and then in view of working capital. Based on the results, 2 points is briefly mentioned:

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1. The companies in grown up stage have audacious policies regarding their current assets and debts on the other hand, the companies in maturity stage have conservative policies for their current assets but are more moderate for their current debts. The growth variable affects current assets of companies in grown up and maturity stages, and it also affects together with assets return ratio and financial lever, the debt policy of companies in grown up and maturity stages.

The more a company is matured regarding its life cycle, the more conservative it becomes in view of management, because they try to save their stability in this stage and experience bankruptcy as late as possible. The companies in grown up stage are larger than matured companies in view of net profit, financial lever and current debts, which reveals the high risk taking ability of their managers, because such companies try to take more risks to achieve more market shares and more profit because of achieving more market share and more profit.

Table 14. Working capital policy regarding life cycle of companies

	Growth	Maturity
Audacious	0.67	0.53
Conservative	0.33	0.47

2. The above table shows that most of the companies in grown up stage act more audaciously and financial managers of the companies in maturity stage are more conservative. The results logically reveal that the more matured a company is the more conservative its managers become because of the life cycle and the attempt to reach bankruptcy stage as late as possible, and the search for more flexibility. Such companies are larger and more expanded with vast middle levels and layers. They will reach bankruptcy stage unless they become flexible and respond market needs and technological development correctly. On the other hand, the companies in grown up stage have managers with more risk taking ability, because of achieving more market share and more profit.

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