Assessment Of Factors Affecting Cash Management Activities- Experimental Study In Listed Textile Enterprises

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Abstract:

Objective: The study analyzes the impact of factors on profitability of cash flow management enterprises of textile and garment enterprises listed on Vietnam stock exchange - VNX (HNX, HoSE and Upcom).

Theoretical framework: domestic and foreign studies related to cash flow management activities

Method: using Qualitative Research (Synthetic Methods; Statistical methods, description; Inductive and interpretive methods) and quantitative research methods (FEM, REM).

Results and conclusion: The author has identified independent variables affecting cash flow management of listed textile enterprises, including: receivables from customers, inventory, payables to sellers, and size of the business. In addition, the control variables: growth opportunities of enterprises, economic environment are not statistically significant

Implications of the research: The experimental results are the basis for the authors to make recommendations to improve the efficiency of cash flow management in listed textile enterprises in the coming time.

Originality/value: Research to help managers of listed textile enterprises come up with appropriate solutions for optimal cash flow management.

Keywords: cash flow, cash flow management, textile industry, regression model.

Introduction

On the basis of understanding the factors affecting cash flow management of enterprises from research by domestic and foreign authors including: Do Hong Nhung (2014), Nguyen Thanh Hieu (2015), Ammar P .Kaka (1994), Ammar Kaka & John Lewis (2003), Gitman, L. J. (2009), Jay J.Ebben & Alec C.Johnson (2012), Egwu Emmanuel Makoji (2021),..., selected by the author evaluate the impact of basic factors including: sales policy, inventory control policy, payment policy with suppliers, business size, business growth opportunities and business environment. Economy.

1. Research methods and data

1.1. Research Methods

1.1.1. Formulate hypotheses for the model

The hypothesis in the model is posed by the author as follows:

Hypothesis H_1: Sales policy affects cash flow management.

Hypothesis H_2: Inventory control policy affects cash flow management.

Hypothesis H_3 : Payment policy with suppliers affects cash flow management.

Hypothesis H_4: Firm size affects cash flow management.

Hypothesis H_5: Growth opportunities of enterprises affect cash flow management.

Hypothesis H_6: Economic environment affects cash flow management.

1.1.2. Measure variables in the model

Dependent variable:

The dependent variable reflects the results of cash flow management of listed textile enterprises. To reflect the results of cash flow management, Jay J.Ebben & Alec C.Johnson (2012) [8] and Egwu Emmanuel Makoji (2021) [6] used the cash conversion period (CCC). Group of authors also agrees with those approaches.

Independent variables:

(1) Sales policy

To reflect the sales policy of enterprises, the studies of Kinnery, R. (2012) [11] used accounts receivable from Customers (ARC). In this thesis, the researcher also agrees with that point of view.

Small receivables from customers indicate that the company's sales policy is effective and cash inflow is abundant. On the contrary, if the receivables from customers are large, it shows that the sales policy in the period is not good, the business is misappropriated by customers and negatively affects the cash inflow of the enterprise.

(2) Inventory control policy

Inventory control policy has been studied by researchers Smith Gapenski (2000) [21], Rob Reider and Peter B. Heyler (2003) [19] reflected through the inventory index. In this thesis, the researcher also used inventory turnover (IT) to assess the impact of inventory control policy on cash flow management of listed textile enterprises.

Small inventory indicates that the company's inventory control policy is good, helping businesses save storage costs and speeding up inventory turnover, increasing cash inflow. On the contrary, if the inventory is large, it proves that the effectiveness of inventory control is poor, which significantly affects the cash flow of enterprises.

(3) Payment policy with suppliers

Researchers Gitman, L. J. (2009) [7], Pedro Ortin-Angel & Diego Prior (2004) [14] reflected the payment policy with suppliers through accounts payable for customers (APC). This indicator was also selected by the researcher in the thesis to reflect the effectiveness of the payment policy with suppliers.

Liabilities to small sellers show the financial capacity and reputation of enterprises with large suppliers. On the contrary, a large amount of payables to sellers shows that the enterprise is facing financial risks or maybe the enterprise is taking measures to extend the payment period to take advantage of cash flow for production and business activities.

(4) Enterprise size

For enterprises in the textile and garment industry in Vietnam, due to the characteristics of their business operations, the size of enterprises will affect cash flow management activities. To calculate the size of the enterprise, there are many different approaches, but in general, most views agree that to measure the size of the enterprise, the formula should be used using the logarithmic formula of the total assets of the enterprise (Martínez et al -Sola et al (2013) [15], Yuliantari W and Sujana (2014) [22]). Group of authors also agrees with that approach.

Control variables:

Control variables analyzed by group of authors include: natural environment, socio-cultural environment, economic environment, political environment and factors from customers. However, in order to use the model to assess the impact of factors on cash flow management, the researcher selected two basic external factors,

which are the factors that create growth opportunities of enterprises and the economic environment.

(1) Growth opportunities of enterprises

According to Munusamy HR (2010) [17] and Melander et al (2017) [16], the growth opportunities of enterprises are closely related to net sales. If the business has good growth opportunities, the net revenue will increase and vice versa. Group of authors also agrees with that approach.

(2) Economic environment

According to Keynes (1936) [10] and Lazaridis, I. & Tryfonidis, D. (2006) [12], the economic environment affecting cash flow management is shown specifically through interest rate policy that facilitates businesses borrow capital and as a result, the debt ratio increases. That is also suitable for textile enterprises listed in Vietnam. Group of authors also uses the debt ratio to assess the influence of the economic environment on cash flow management.

1.2. Research data

The data in the research is collected by the author from the audited financial statements of 50 textile and garment enterprises listed on the Vietnamese stock market in the 6-year period from 2017 to 2022 and is summarized below. Table structure with 300 observations.

Data is processed in the form of a panel (panel data). On the basis of building a research framework on factors affecting cash flow management results, group of authors summarizes the sign relationship between independent variables and dependent variables through the following table:

Table 1: Summary of the sign relationship between the independent variables and the dependent variable

Variable	Symbol	Calculation formula (or reflection indicator)	Expectation sign
Dependent variable			
Cash Conversion Cycle	CCC	Inventory reserve period + Sales collection period - Payment period for materials	
Independent variables			
Sales policy	ARC		+
Inventory management policy	IT		+
Payment policy with suppliers	APC		-

Enterprise size	SIZE	Ln(total assets)	+
Control variable			
Growth opportunity of the company	NR		+
Economic environment	DR		-

Source: Compiled by a group of authors

2. Research results and discussion

2.1. Research results

The author uses FEM regression model with fixed effects and REM regression model with random effects to determine the influence of dependent and control variables on cash flow management of enterprises. The textile and garment industry is listed and the results are as follows:

- The results of the FEM model:

Table 2: Test results of the FEM model

```
Fixed-effects (within) regression               Number of obs      =       300
Group variable: id                              Number of groups   =        50

R-sq:                                           Obs per group:
     within  = 0.1377                                         min =         6
     between = 0.2105                                         avg =       6.0
     overall = 0.1483                                         max =         6

                                                F(6,119)           =      3.17
corr(u_i, Xb)  = -0.5800                        Prob > F           =    0.0004
```

ccc	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
arc	2.02e-10	1.13e-10	-1.79	0.076	-4.25e-10	2.17e-11
it	1.77e-10	1.16e-10	1.53	0.129	-5.25e-11	4.06e-10
apc	-4.93e-11	7.69e-11	-0.64	0.523	-2.01e-10	1.03e-10
size	96.37005	84.50938	-1.14	0.256	-263.7071	70.96696
nr	9.82e-11	3.18e-11	3.09	0.002	3.53e-11	1.61e-10
dr	-150.6284	144.5463	-1.04	0.299	-436.8445	135.5877
_cons	2619.785	2323.667	1.13	0.262	-1981.308	7220.878
sigma_u	113.04751					
sigma_e	109.14037					
rho	.51757939	(fraction of variance due to u_i)				

F test that all u_i=0: F(24, 119) = 2.13 Prob > F = 0.0041

Source: Financial statements of listed textile enterprises in the period 2017-2022 [1] and calculations by the authors from Stata 14.0 software

The test of the FEM model based on F-statistics shows that the above regression model is suitable (P-value = 0.0004 is less than 5% significance level).

- The results of the REM model:

Table 3: Test results of the REM model

```
Random-effects GLS regression                   Number of obs      =       300
Group variable: id                              Number of groups   =        50

R-sq:                                           Obs per group:
     within  = 0.0782                                         min =         6
     between = 0.6493                                         avg =       6.0
     overall = 0.3413                                         max =         6

                                                Wald chi2(2)       =         .
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =         .
```

ccc	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
arc	3.61e-12	5.57e-11	0.06	0.948	-1.06e-10	1.13e-10
it	3.15e-10	8.67e-11	3.63	0.000	1.45e-10	4.85e-10
apc	-8.95e-11	4.34e-11	-2.06	0.039	-1.75e-10	-4.48e-12
size	54.72027	30.83408	-1.77	0.076	-115.154	5.713416
nr	2.79e-11	1.29e-11	2.16	0.031	2.58e-12	5.32e-11
dr	-222.7643	87.1865	-2.56	0.011	-393.6467	-51.88191
_cons	1559.146	831.0957	1.88	0.061	-69.7712	3188.064
sigma_u	43.799041					
sigma_e	109.14037					
rho	.13871	(fraction of variance due to u_i)				

Source: Financial statements of listed textile enterprises in the period 2017-2022 [1] and calculations by the authors from Stata 14.0 software

The test of the REM model based on F-statistics shows that the above regression model is suitable (P-value = 0.000 is less than 5% level).

Because the performance results show that both FEM and REM regression models are statistically suitable, the author used Hausman test to choose the most suitable regression model with the research data set, the results is the more FEM model.

Table 4: Test results of Hausman . model

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
arc	3.61e-12	-2.02e-10	2.05e-10	.
it	3.15e-10	1.77e-10	1.38e-10	.
apc	-8.95e-11	-4.93e-11	-4.02e-11	.
size	-54.72027	-96.37005	41.64978	.
nr	2.79e-11	9.82e-11	-7.03e-11	.
dr	-222.7643	-150.6284	-72.13588	.

```
                b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test:  Ho:  difference in coefficients not systematic

           chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                   =       50.05
         Prob>chi2 =      0.0000
         (V_b-V_B is not positive definite)
```

Source: The results of the author's team from Stata 14.0. software

Correlation coefficient test

Table 5: Correlation matrix between coefficients in the model

	ccc	arc	it	apc	size	nr	dr
ccc	1.0000						
arc	-0.1633	1.0000					
it	-0.0328	0.6729	1.0000				
apc	-0.2700	0.8419	0.8654	1.0000			
size	-0.2464	0.6978	0.8300	0.8650	1.0000		
nr	-0.0776	0.7297	0.7828	0.8117	0.7294	1.0000	
dr	-0.4145	0.3738	0.5099	0.6526	0.5879	0.5419	1.0000

Source: The results of the author's team from Stata 14.0. software

The results of the correlation coefficient test in Figure 1 show that the variables used in the model are all correlated with each other.

After conducting model defect correction, the model results of the impact of factors on cash flow management are shown in the following figure:

Table 6: Influence of factors on activity Cash flow management according to the post-adjusted fixed-effects model

Fixed-effects (within) regression — Number of obs = 300
Group variable: id — Number of groups = 50

R-sq: — Obs per group:
within = 0.6177 — min = 6
between = 0.6305 — avg = 6.0
overall = 0.6483 — max = 6

F(2,24) = .
corr(u_i, Xb) = -0.5800 — Prob > F = 0.0000

(Std. Err. adjusted for 50 clusters in id)

ccc	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
arc	2.02e-10	1.87e-10	1.08	0.000	5.89e-10	1.85e-10
it	1.77e-10	8.23e-11	2.15	0.001	6.96e-12	3.47e-10
apc	-4.93e-11	6.40e-11	-0.77	0.003	-1.81e-10	8.27e-11
size	96.37005	58.41185	1.65	0.006	216.9262	24.18608
nr	9.82e-11	6.84e-11	1.44	0.164	-4.29e-11	2.39e-10
dr	-150.6284	117.5703	-1.28	0.212	-393.2815	92.02466
_cons	2619.785	1627.542	1.61	0.121	-739.2969	5978.868
sigma_u	113.04751					
sigma_e	109.14037					
rho	.51757939	(fraction of variance due to u_i)				

Source: The results of the author's team from Stata 14.0. software

The test is based on the F-statistic for the conclusion that the regression model is suitable (the F-value = 0.0000 is less than the 5% level of significance). The coefficient R^2= 0.6177 proves that 61.77% of the cash flow management activities of the listed textile and garment enterprises are due to the impact of the six factors mentioned above.

2.2. Discussing research results

From the results of the FEM fixed-effects model above, we see:

Accounts receivable from customers (ARC) has a positive impact on cash conversion period (CCC) and is statistically significant at 1% significance level. This result implies that the larger the receivables from customers (i.e. poor sales policy), the larger the cash conversion cycle (i.e. poor cash flow management). Conversely, if liabilities are shrinking (i.e., effective sales policy), the smaller the cash flow cycle (i.e., good cash flow management).

Inventory (IT) has a positive effect on cash conversion cycle (CCC) and is statistically significant at the 5% level of significance. This result implies that if the inventory is large (i.e., inventory control policy is inefficient) then the cash flow period is larger (i.e., cash flow management is not good). Conversely, if the inventory is small (i.e. effective inventory control policy), the smaller the cash conversion cycle (i.e. good cash flow management).

Accounts payable to sellers (APC) has a negative impact on cash conversion cycle (CCC) and is statistically significant at 5% significance level. This result implies that if the receivables are large (i.e., the payment policy with suppliers is not good), the cash conversion period will be smaller (i.e. effective cash flow management). Conversely, if the accounts payable is small (i.e., the payment policy is good with suppliers), the larger the cash flow cycle (i.e., poor cash flow management).

The variable enterprise size (SIZE) has a positive impact on cash flow management (CCC) and is statistically significant at the 10% level of significance.

The variable growth opportunity of enterprises (NR) has a positive impact on cash flow management (CCC) and is not statistically significant.

Economic environment variable has a negative impact (DR) on cash flow management (CCC) and is not statistically significant.

Thus, the results of the study on the influence of factors on cash flow management of listed textile enterprises lead to the following conclusions: sales policy, inventory control policy, payment policy with Suppliers and size of enterprises both affect cash flow management activities of listed textile enterprises. Research results are the basis to help listed textile enterprises have orientation in cash flow management to maximize enterprise value.

3. Limitations of cash flow management and some recommendations to help listed textile enterprises strengthen cash flow management

* For sales policy:

Limit:

(i) The development of commercial credit policies is not reasonable, flexible and not suitable with reality. (ii) The organization of the management of receivables is not strict and inconsistent. Specifically: not attaching importance to checking and verifying customer information before cooperating, still limited in using professional debt collection tools such as factoring, bill of exchange... , interest has not yet been calculated on overdue receivables, and risk prevention measures have not been thoroughly applied.

- Recommendations:

For credit term: Enterprises need to have a tight bond in the sales contract, require customers to sign an agreement, set out specific regulations on debt payment and offer penalty interest in case late payment customers.

* For inventory management policy:

- Limit:

The inventory management policy has not been properly paid attention by the listed textile and garment enterprises, causing the prolonged storage time of finished products, affecting the cash flow.

- Recommendations:

To improve inventory management policy, listed textile enterprises need to shorten the storage time of finished products. Shortening the storage time of finished products increases the profitability of enterprises because it reduces the time money is stagnate in inventory. In addition, listed textile enterprises need to strictly follow to ensure the process of consuming finished products.

* For payment policy with suppliers:

- Limit:

In fact, the payment policy with suppliers of listed textile enterprises has not been completed, significantly affecting the cash outflow of these enterprises.

- Recommendations:

Complete and detailed summary of forms including: detailed record, reconciliation table or payment confirmation table to suppliers. In addition, when managing cash outflows in terms of specific aspects, appropriate forms should be added. Specifically: detailed management of payables by each invoice and by payment term needs to be focused: reporting the debt age of the bills (usually divided by week or month), the list of bills due for payment , list of overdue invoices, list of outstanding invoices of suppliers...

4. Conclusion

By quantitative research method, the authors have made some recommendations to improve the efficiency of cash flow management in textile and garment companies listed on the Vietnam Stock Exchange. This is the basis for these companies to ensure solvency, limit risks, improve profitability, and consolidate sustainable development for the present and future.

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