Investigating the effect of management incumbency duration on the operational cycle term in companies accepted in Tehran's stock exchange

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ABSTRACT

The main aim of this paper is to investigate the effect of management incumbency duration on the operational cycle term in companies accepted in Tehran's stock exchange. In other words, it has been tried in this paper to answer the question of whether or not the duration of management incumbency had a significant effect on the operational life cycle term. To do the research, we have provided four hypotheses, one main hypothesis and three sub hypotheses, and have investigated a sample composed of 137 companies which have been accepted in Tehran's stock exchange within a five-years-duration from 2009 to 2013. In this research, the data needed for measuring variables have been extracted from the reports given by the board of the directors and the financial statements and the statistical methods were done through Eviews software. The findings of the research showed that the effect of management incumbency duration on the operation life cycle term was meaningful. The effect of management incumbency duration on the term of the collection of debts was significant. In spite of this, the effect of management incumbency duration on the term of the goods circulation is negative and insignificant. The same relationship, that is, the effect of management incumbency, was also significant.

INTRODUCTION

The beginning of the third millennium coincided with a financial crisis within a great deal of American and European firms whose consequences extended to other countries. It can be said that the factors such as weak moral behaviors in the firm level, the existence of both inexpert and subservient managers for directing the firms' affairs, weak internal controls for preventing from or discovering problems within the firms, weak external supervision such as law makers, finance market, auditors, and legal systems and frameworks had a major role in the outbreak of these crises. These factors related to the mechanisms of the company's administration can be divided into two categories which are internal mechanisms and external mechanisms (Saqafi and Safarzadeh, 2011).

One of the most important internal mechanisms of the company's administration is to pay attention to the company's board of directors as a directing institution which has the role of both supervising and auditing the work of the executive managers in order to preserve the stock holders' proprietorship interests. It seems that the achievement of a company depends in its ideal directing, so that, it can be claimed that the reasons of the durability of

the known and creditable firms lay in the fact that these firms enjoy an efficient and influential board of directors.

The weak performance of the board of the directors is something which should be immediately taken into consideration. The existence of the sound flow of information in the board of the directors is as important and necessary for the soundness of the operations of the body of the company as the constant circulation of the blood for the human body.

The problem

The incumbency duration is deemed as a criterion for the assessment of the level of the horizon of decision making by the general director. In today's world, management plays a determining role for the enhancement of both performance and output of the company (Mazaheri, 2013).

The manager's claim as to the company is just related to their duration of incumbency. This problem leads to the stockholders' benefits and the company's value (Mazaheri, 2013). The board of directors having related knowledge, skills, and the related abilities, as a unique tactic, can potentially help the company provide strategic advantages:

1: The role of the resources: The board of the directors can enhance accessibility to vital ultra organizational resources;

2: The role of providing services: The board of the directors can suggest their suggestions to executive managers;

3: The controlling role of the board of the directors: The board of directors exerts controlling power and stimulates the executive managers for better performance (Gholami Syani, 2012). The general director's duration of incumbency and his/her management has always been the main instrument in human societies and organization and the managers have been the most loyal and the most important resources for any economic institution. The managerial behaviors and methods all over the world are various and also are affected by the conditions which are dominant in the area (Zamani, 2013). The managers has to and have to suggest appropriate strategies to make use of the available financial resources better and create conditions for the optimal selection of investment project. Through making use of this knowledge, the efficiency to use public wealth has increased which, in turn, has led to public wealth increase and social welfare (Tehrani, 2008). The claims of the managers as to the company are just related to their duration of incumbency which reduces the shareholders benefits and the company's value (Mazaheri, 2013). Due to the separation of the management and proprietorship in joint-stock companies, general manager has the power to transfer part of the beneficiaries' wealth within the organization for his/her own interest and maximizing her/his own benefits, because, at the first stage, the managers have access to the information which, at least some part of it, is not available to the others. And, at the second stage, due to the preparation of the financial information report by the managers themselves, they will be able to change that information for their own personal benefits (Zamani and colleagues, 2013).

It should be mentioned that by management, in this research, we mean both general director and senior executive managers, that is, the commercial unit's bound director (Mazaheri, 2013). Managers, at the beginning of being appointed to any kind of duty have an ineffective term. After this term the positive effect of their activities will be revealed. If the managers are displaced before they have reached this stage, it will be very costly for the firm.

It is believed that the problem related to horizon of the managers' decision making will cause greater problems for the firm, if his/her duration of incumbency increases her/his disposition to preserve the current situation and reduces the disposition to make use of the novel and developed methods. According to this viewpoint, in this research, the number of the years of activity as the general director of the company has been used to determine the duration of incumbency (mazaheri, 2013).

Management alteration: The index management alteration is considered as the alteration of the general director or the majority of the members of the board of directors (legal persons or the natural persons as the representative of legal persons).

The year of management alteration: This is the year when the manager takes the control of financial reporting and signs annual financial statements. The year of alteration announcement is considered as the year of alteration.

The duration of a general director's incumbency of a firm will be directed and guided by that firm's board of the director's members. Therefore, the leadership will be passed from the board of the managers to the general director and, then, to the senior managers in order to direct and organize managers at the beginning of their appointment to any post when they pass the ineffective term of incumbency. Bourse organization can periodically, for example once in three months, prepare an inclusive list of the firms which have had changes at the level of general director and, through offering it to the market, improve the users' evaluation and decision making (Mazaheri, 2013). The dimensions of the idea life of the product are ideal and short operational cycle. Different factors such as the fluctuations of market price, recession, inflation, competition intensification, and so on can influence the determination of operational cycle.

The period of operation cycle has been explained for the calculation and determining the period of the collection of debts, the period of goods cycle, and the period of the creditors' deposit. Now, if we add together the period of the collection of debts, the period of goods cycle, and the period of the creditors' deposit, then we will obtain the period during which the goods remain in the warehouse to be sold and the debts resulting from the sale are collected.

The period of operation cycle = (The period of debts collection + the period of goods cycle) – the period of the creditors' deposit

What which can be understood from the above is that during one year: The processes of the collection of debts and the creditors' deposits are several times more than the procedures of the production and sale of the goods, and the money is changed into several forms (such as materials, wages, goods, debts, and credit) and, once again is changed into the cash and enters into the period of operation cycle. Usually, the period of goods cycle is less than one year. Compared to earlier times, exceeding the period of goods cycle more than one year is considered undesirable, because it implies the retardation of the activities in either one or some points of the period of the goods cycle. On the other hand, the passing of this period is also undesirable because it shows the shortage of the circulating capital of the institution (Hosseinzadeh, 2014).

The period of operation cycle is usually less than one year and, in some industries, there may be several operation periods during one year. This proportion should be compared during last periods within the same commercial unit or with similar firms. Extending this period as to the past periods is undesirable and is indicative of the commercial unit's activity (Reza'e et al, 2012).

The results of different researches have shown that the characteristics of the boards of directors, at the beginning of their appointments, imagine a short lived vocational horizon for themselves. In other words, at the outset of their incumbency period, the directors go through an ineffective period (Mazaheri, 2012), but, along with the increase of the period of incumbency, the directors' experiences, too, increase and they can not only increase the sale of the manufactured goods through the recognition of the creditable customers and timely measures to provide primary materials and goods and timely production and delivering of goods, but also, reduce the period of the collection of debts, bad debts, and irrecoverable debts or even eliminate them. They can also reduce the length of operation cycle through timely paying the debts and credit accounts. The aim of the present research is to show the

effect of the management incumbency duration on the length of the period of operation cycle in the firms accepted in Tehran's stock exchange. This research is seeking to compare the effect of the management incumbency duration on the length of the firms' operation cycle during the first year of incumbency with the ending years of either a shorter or longer duration of management incumbency and to show whether or not the length of the period of management incumbency is effective on goods cycle period, debts collection period, and debts payment period, and to show that if it is effective, the effect is significant or not. Regarding this introduction, the hypotheses of the present research have been presented in the form of one main hypothesis and three sub hypotheses as follow:

The main hypotheses: The period of management incumbency has a significant effect on the length of operation cycle of the firm accepted in Tehran's stock exchange.

The first sub hypothesis: The length of the period of management incumbency has a significant effect on the length of the period of goods cycle of the firms accepted in Tehran's stock exchange.

The second sub hypothesis: The length of the period of management incumbency has a significant effect on the period of debts collection of the firm accepted in Tehran's stock exchange.

The third sub hypothesis: The length of the period of management incumbency has a significant effect on the period of debts payment of the firms accepted in Tehran's stock exchange.

$$OCP_{i,t}= \beta_0+\beta_1 mt_{i,t}+\beta_2 PROF_{i,t}+\beta_3 Age_{i,t}+\beta_4 Size_{i,t}+\beta_5 LEV_{i,t}+\varepsilon_0$$

Sub hypothesis:

$$ITP_{i,t}= \beta_0+\beta_1 mt_{i,t}+\beta_2 PROF_{i,t}+\beta_3 Age_{i,t}+\beta_4 Size_{i,t}+\beta_5 LEV_{i,t}+\varepsilon_0$$
$$RCD_{i,t}= \beta_0+\beta_1 mt_{i,t}+\beta_2 PROF_{i,t}+\beta_3 Age_{i,t}+\beta_4 Size_{i,t}+\beta_5 LEV_{i,t}+\varepsilon_0$$
$$Pdp_{i,t}= \beta_0+\beta_1 mt_{i,t}+\beta_2 PROF_{i,t}+\beta_3 Age_{i,t}+\beta_4 Size_{i,t}+\beta_5 LEV_{i,t}+\varepsilon_0$$

In these formulas:

$MT_{i.t}$: management incumbency period for the firm of I in the year t;

$OPC_{i.t}$: Operation cycle for the firm of I in the year of t

$ITP_{i.t}$: period of gods cycle for the company i in the year t

$Pdp_{i.t}$: period of the payment of debts for the company i in the year t

$RCD_{i.t}$: period of the debts collection for the company of i in the year t

PROF: opportunity of profitability

AGE: The age of the company

SIZE: The size of the company

LEV: leverage degree

$B_5...B_2$, B_1: The coefficient of the model regressions

EO: The percent of error, i stand for the topical company and t for the year in mind.

2: Thematic literature and the history of the research

The elements of the operation cycle period, as it was previously mentioned, the period of operation cycle includes 3 elements which have been explained briefly below:

A: The period of the goods cycle: The period of the inventory cycle shows the period during which the goods are sold. Usually, goods are used as something which is the same as backlog. If so, it includes primary materials, the goods being manufactured, and the manufactured goods. It also includes the production supplies (Mohammadi, 2009).

B: The period of debts collection: Through the calculation of this proportion, we can determine the time length or the number of the days during which the company collects its debts. Moreover, it is possible to determine the relationship between credit sales and short-term debts of the firm. In other words, it can be said that it is possible to show the average which starts from the sales and ends in the collection of debts through making use of the proportion of the period of debts collection.

C: The period of debts collection: The creditors' settlements period shows the time length for the time length for the settlement of payable accounts. Creditors' settlement period is usually used for two purposes. Planning for the payments and the budget in cash; and its comparison with the premiums which the sellers of goods and suppliers specify for the collection of their debts (Mohammadi, 2009).

The history of research: Numerous studies have been performed on the period of operation cycle and management incumbency term. Chart 1 shows same of the studies on these subjects both inside the country and abroad:

Year	Researcher(s)	Title of research	Findings
2013	Vang and colleagues	Investigating the effect of inflation and operation cycle on cash preservation	The results show that there is significant a negative relationship between inflation and operation cycle and cash preservation
2012	Al Mcclelland and co researchers	Investigating the effect of occupational scope and management incumbency term on the firm's future performance	general director with short term occupational term (this variable has been measured through general directors' age) will make use of risk-avoidance strategy which, moderately, will have a negative influence on the firm's future performance
2010	Antia and co researchers	Investigating the relationship between general director's scope of decision making, representation costs, value of the company, and information risk	The researchers in this research concluded that general director's short-term scope of incumbency is related to increasing representation costs, reduction of the firm's value, and the higher level of information risk
2010	Zhang	The investigation of manager's term of incumbency effect on general director's premium payment structure	In this research, he concluded that for the directors outside director's board, the relationship between the term of incumbency and the premium, based on shareholders' percent of salary, increases at the early stages of their incumbency, and, for the managers inside the board, this relationship decreases at the end of their incumbency term
2010	Wang and colleagues	: Investigating financial circulation of general director after Sarinez Exli and risk-avoidance	Financial statements re-evaluated are effective on general director's term of incumbency and his/her financial circulation which can be the result of super visional activities intensification in Sarbanes oxley act

2009	Brookman and Di tistel	Testing the risk of general director's end of duty and the factors effecting it and its influence on firm's value	Management incumbency term will be increased through his/her efficiency and awarding premiums. This term will be decreased by directors' board supervision. The change in the risk of general director's end of duty does not have a significant effect on the firm's value
2012	Moradi	Investigating the effect of promissory items of operation cycle on the relationship between economic macro variables and the firms' stock's output.	According to the results of the research, the relationship between operation cycle and the quality of promissory item is inverse and significant. Moreover with the lengthening of operation cycle and reduction of the quality of promissory items and explanatory power of market, stock's output and the power of the stock's future prediction through economic macro variables is also reduced
2012	Boulou and colleagues	Investigating the effect of the firms' operation cycle on the stability of the promissory items of the profit	There was not a significant relationship between operation cycle and the stability of promissory items by which it can be claimed that the firms having longer operation cycle possess less stable promissory items
2012	Mazaheri	Investigating the effect of management incumbency period on the value of the firm, representative costs and information risk	The long term of the general director's period of management incumbency was related to information risk and the firm's value, but there was not a significant relationship between general director's term of incumbency and representative costs
2012	Gholami-i Syati	The effect of the incumbency duration of the board of directors on the quality of financial reporting and stability of the profit to see whether or not it is effective.	In this research it was concluded that the effect of the board of directors' incumbency duration was not effective on the quality of financial reporting and the firm's stability of profit.
2013	Zamani	Investigating management incumbency duration and profit management	The researchers in this research supported the positive management of the profit in final year of general director's incumbency duration, but, there was not any evidence of the negative management of the profit in the first year of incumbency and the positive management of the profit during his/her incumbency in the second year
2013	Sadeghi-Kia	Investigating the effect of the management incumbency duration on profit management	There was not a significant relationship between the level of resorting to profit facilitating activities, the firms with long durations of management incumbency, and the firms with short terms of management incumbency
2013	Reza'e et al	The effect of operation cycle and proprietorship structure on the firms' level of conservatism through C-score method	There was a positive significant relationship between operation cycle and the firms' level of conservatism. The same relationship exists between institutional proprietorship structure and conservatism level, but, there was not a significant relationship between general proprietorship structure and conservatism level
2014	Hussein-Zadeh	Investigating the effect of operation cycle on cash holding	The results showed that the operation cycle and inflation had an inverse significant effect on cash holding
2014	Molla'e	Investigating the effect inflation and operation cycle on the held cash of the Tehran stock exchange firms	Regarding the analysis and the hypotheses of the research, the results revealed that inflation and operation cycle had no effect on the firms' hold cash

The statistical society and sample: In this research the firms accepted by Tehran's stock exchange are those accepted during five years starting from March 2009 (1388 A.H.) to March 2013 (1392 A.H.). In order to reach reliable results, the firms which entered into stock exchange after 2009 and the firms which left it during the conduct of this research were not included in statistical universe of the research. In addition, in order to select an ideal statistical sample the method of systematic elimination has been used. Therefore, the statistical society of the research has been modified through raking into account the following conditions and restrictions:

* The total number of the firms accepted in Tehran's stock exchange from the beginning of March, 2013 to March, 2014, for one year: 478

* The number of firms whose financial year does not end to 20th of March (Esfand 29th): 61

* The number of firms which left stock exchange during investigating period: 61

* The number of firms which have entered into the stock exchange during investigating period: 65

* The number of firms whose data has not been sufficient for the implementation of this research: 47

* The number of the firms which have changed their financial year during the investigating period: 40

*The number of firms which have been held by the banks, credit institutions, intermediary, insurance, and holding institution: 67

* Total number of the firms investigated, after sampling through systematic elimination: 137

After considering these restrictions, 137 firms were found to have the requirements to be included is statistical society of the research which, regarding the 5-years scope of the research consisted 685 year-firm.

Measuring variables and data collection:
The independent variable in this research is management incumbency duration which has been defined as the number of the years during which the general director has been working in the firm and is equal with the number of the years starting from incumbency duration as the general manager for each year, that is, for the first year the number of 1, for the second year the number of 2, for the third year the number of 3 .... (Mazaheri, 2013). The dependent variable of the research is the length of operation cycle which is the average time length between the funds spent for manufacturing products and the funds received through the sale of products of operation cycle.

The length of operation cycle=the period of debts collection + goods circulation period – the period of debts repayment (Hussein-Zadeh, 2014).

The length of operation cycle includes three components which are the period of goods inventory circulation, the period of debts collection, and the period of debts repayments whose operational definitions are as follow:

The period of goods circulation:
The proportion of goods inventory circulation. This proportion has been obtained from dividing net sale by goods inventory as it has been stated in the balance sheet of the end of the end of year. The period of goods inventory circulation investment: through dividing 365 days of the year by the goods circulation frequency, the period of goods circulation is calculated (Hussein-Zadeh, 2014).

The proportion of goods circulation inventory=the cost price of the goods sold/the average of goods circulation inventory
The period of goods inventory circulation=365/the proportion of goods circulation inventory
(Hussein-Zadeh, 2014)

The period of debts collection: Through the calculation of this proportion it is possible to determine the number of the days during which the firm can collect its debts. Through this proportion the relationship between credit sale and short-term claims of the firm can be determined, in other word, it can be said that it is possible to show the average time starting from the sale and ending in debts collection through making use of the proportion of the debts collection period. This proportion is calculated in two stages:

1: In the first stage, claims circulation is obtained from dividing annual credits sale by the average of the claims, in the second stage, the period of debts collection is calculated through dividing 360 by claims circulation (Hussein-Zadeh, 2014).

The period of debts payment: 1 – the sum of annual purchases divided by the number of the days of the year results in approximate purchase level, then, the creditor's reminder balance of account (payable accounts) is divided by this rate and the result will be the number of the days of purchase which is equal to creditors' unpaid debt.

2: In the second method, the average of the creditors' accounts (the balance at the end of the period t the balance at the beginning of the periods-the cost price of the sold goods)= the number of the times of the creditors' deposit

Creditors' times of deposit=cost price of the sold goods – (The balance at the beginning + the balance at the end of period)/the average of the creditors' account

The result obtained from above shows how many times the payable account has been deposited and liquidated within one year.

The period of the creditors' deposit= 360/times of creditors' deposit

In this research the variables of financial lever, age of the firm, market value and size of the firm, as the book value of the firm, is considered as the control variable.

The age of the firm: By age of the firm we mean the temporal difference between the period being investigated and when the firm has been entered into stock exchanges (Ghasemi, 2015).

Size of the firm: It is the logarithm of the total assets of the company at the end of the year (Baghoumian and Naghdi, 2014).

Size of the firm= LN (total assets)

Leverage degree: Leverage degree is the percent of profit change of each contribution per one percent change in the profit before taxation and interest. Making use of this lever is because this lever is related to the effects of each contribution and results from the decisions made for financing. For the sums of the profit which, before taxation and paying interest, are above financial breakeven point, the degree of financial leverage is higher than 1, and with the increase of the profit, before paying interest and tax, this degree will decrease and comes nearer to 1 (Gholami, 2003).

Leverage degree= total of debts/total of assets

The opportunity of profitability: This opportunity is evaluated through the ratio of Tobin's Q ratio for the firms' performance. If this proportion is higher than 1, it means that the market value of the firm's assets is higher than its placement value.

Tobin's Q ratio proportion is calculated through following formula:

Q=Back value of the right of shareholders – (book value of assets+ market value of the rights of shareholders/the book value of assets
Q=MV/BV

In this formula, MV stands for the value market of the rights of shareholders and BV stands for the book value of the rights of shareholders.

Kind of research: This is an applied research because its results are directly used to solve a special problem. From the viewpoint of data collection, this research is library research as the data is historical (post-event). From the viewpoint of execution this research is causal-descriptive, that is, the research is causal in nature and a post-event one temporally.

Statistical methods used in models survey: Regarding the kind of the data and the available methods of analysis, the method of data combination/comparison has been used. By combined/compared data, a complex of data is meant which has been composed of a great deal of temporary variables (N) which will be evaluated during a specific time period

(T). If so, the number of the observation T multiplied by N can be estimated through different models. Some of the concepts of the descriptive statistics of variables, including mean, median, minimum of observations, maximum of observations, and standard deviation have been provided. In order to assess the reliability of the variables of the research the unit root tests of E.E.M and pesaran, Shin and Levin, Lin& Chou Tests have been used. For assessing the normality component of the models disturbances, Jarque-Bera Test in software setting of UUZ has been employed. To investigate the co-linearity between dependent and controlling variables the criterion of tolerance and variance inflation factor and for assessing the variance of inequality Bartlet Tests have been made use of. Before evaluating regression models, for testing each of the research hypotheses, through employing Limer's F Test, the model of integrative data selection against synthetic data will be done. If the possibility of the Limer's F statistics is lower than 5% significance, making use of integrative data will not be performed; otherwise, if the level of significance is higher than 5%, making use of integrative data will be appropriated. If the model of integrative data is not used against synthetic data, Hussman Test will be used for the selection of the patterns of constant effects against the pattern of random effects. If the value of Hussman statistics is lower than 5% significance, we will not have sufficient evidences to reject constant effects and, thus, we have to make use of the pattern of constant effects in order to test the above mentioned hypotheses, otherwise, if the level of significance is higher than 5% making use of the patterns of random effects will be appropriate.

4: Descriptive analysis of the data and the results of hypotheses testing descriptive analysis of the research variables.

Variables	Observations	Std. Dev.	Minimum	Maximum	Median	Mean
MT	685	1/76	1	9	4	4
OCD	685	2/01	70/99	1365/87	227/70	227/72
ITP	685	0/82	1/22	684	482	470
PDP	685	0/53	1/95	530	342	342
RCD	685	0/14	2/04	301	258	258
PROF	685	0/28	0/0009	160	0/23	0/30
SIZE	685	2/01	7/75	2036	1320	1336
LEV	685	0/21	0/09	0/98	0/63	0/60
AGE	685	0/51	1/60	382	263	260

Mean, median, maximum, minimum, standard deviation, number of investigations, management incumbency period, length of operational cycle, period of debts payment, period of debts collection, profitability, size of the firm, financial leverage, and age of the firm

Some of the concepts of the variables descriptive statistics including mean, median, minimum of observations, maximum observation, and standard deviation have been provided in this table. The most important central index is the mean which shows the balance point and the distribution center of gravity and is a good index for showing the centrality of the data. For example, the mean value of 227.72 stands for the variable of the length of operational cycle which shows that the majority of the data have been centered on this point. Median is another central index which shows the conditions of the society. The unstable variable of the length of operational cycle is equal to 227.70 days which reveals that half of the data is less and the other half of the data is higher than this value. Standard deviation is one of the most important parameters of variance and is a criterion which shows the observations dispersion from the mean. The value of variables of operational length cycle equals 2.01 days. The most observed length of operational cycle is 1365.87 day and the least observed length of operational cycle is 70.99 days. The mean of 4 stands for the variable of management incumbency duration which shows that most of data has centered on this point. Median is another central index which shows the state of society. The unstable median of management incumbency duration is 4, showing that half of the data is lower and the other half is higher than this value. Standard deviation, as one of the most important parameters of dispersion, is a criterion of assessing the dispersion of observations from the mean. This value is 1.10 for the variable of management incumbency duration.

Assessing the reliability of the research variables

Variables	Levin, Lin & Chu		E.E.M & pesaran and shin	
	Prob.	Statistic	Prob	Statistic
MT	0/0114	-2/2779	0/000	-11/1163
OCD	0/000	-59/3943	0/000	-12/1579
ITP	0/000	-30/0212	0/000	-8/8965
PDP	0/000	-33/9753	0/000	-11/1163
RCD	0/000	-33/1831	0/000	-8/7684
PROF	0/000	-56/4012	0/000	-11/2069
SIZE	0/000	-35/3121	0/000	-9/1487
LEV	0/000	-35/2913	0/000	-10/2159
AGE	0/000	-59/1822	0/000	-393/316

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Variable, symbol, E.E.M & sons and shin Test, Test statistics, the possibility of test statistics, management duration, duration of operational cycle, inventory turning period, payment of debts period, recollection of claims duration, profitability, size, leverage, age of the company

As the value of the probability of the statistics of Levin, Lin, Chu, E.E.M & pesaran, and Shin Test for all of the variables is lower the 5% error, it is concluded that all of the variables, during investigation period, have been reliable.

The test of the normality of the error sentences

The results of the test of error sentences normality

Variable, Jarque-Bera statistics, probability of the statistics of Jarque-Bera error sentences related to main hypothesis, error sentences related to the first sub-hypothesis, error sentences related to the second sub-hypothesis error sentences related to the third sub-hypothesis

As the probability of Jarque-Bera statistics, for all error sentences, is higher than the 5% error level, their normality is supported.

Colineality Test

The results of colineality test

Variables	VIF	Tolerance
MT	1/052	0/950
PROF	1/014	0/986
SIZE	1/019	0/981
LEV	1/061	0/942
AGE	1/010	0/990

As for the independent and controlling variables, the level of televerance is higher than 0.2 and the level of inflation factor variance is lower than 5, it is concluded that no colineality is found between independent and controlling variables.

The results of inconsistency variance test

hypothesis,	Prob.	d.f.	Prob.	
main hypothesis	0/739	3	2/1974	Bartlett
the first sub-hypothesis	0/459	3	2/5488	
the second sub-hypothesis	0/745	3	1/9582	
the third sub-hypothesis	0/444	3	1/5777	

Regarding the probability of Barlet Test statistics is higher than the error level 5%, it is found that the variances are consistent and the problem of inconsistency is not observed.

F. Limer & Hussman Test of research hypotheses

The results of F. Limer and hussman Test for the main hypothesis of the research:

	Cross-section random			Cross-section F		
hypothesis,	Prob.	Chi-Sq. d.f.	Statistic	hypothesis,	d.f.	Statistic
main hypothesis	0/0000	5	6/6254	main hypothesis	111,452	3/6251
the first sub-hypothesis	0/9355	5	1/4926	the first sub-hypothesis	136,543	2/5052
the second sub-hypothesis	0/0001	5	26/7088	the second sub-hypothesis	136,543	3/4439
the third sub-hypothesis	0/0788	5	9/9120	the third sub-hypothesis	136,543	2/9210

The results of F. Limer test for the main hypothesis shows that the probability of the mentioned test is lower than the 5% error level and making use of the tableau data is supported. To do this and for the selection of the method of stable effects as opposed to random effects, Hussman test should be used. The results of Hussman test is supported for the main hypothesis of the research as the probability of Hussman test statistics is lower than the error level of 5%, that is, making use of the method of stable effect is supported.

The results of F. Limer and Hussman for the first sub-hypothesis of the research:

As the results of F. Limer test for the first sub-hypothesis show that as the probability of the above-mentioned test statistics is lower than the error level of 5%, making use of tableau data is supported. Therefore, for the selection of the method of stable effects, as opposed to random effects, Hussman Test should be used. Because the probability of the statistics of Hussman Test is higher than 5% error level, making use of the method of random effects is supported.

The results of F. Limer and Hussman Tests for the second sub-hypothesis of the research: As the results of F. Limer test for the second sub-hypothesis of the research reveal that the probability of the statistics of F. Limer Test is lower than the error level of 5%, makinf use of tableau data is supported. In this state, In order to select the method of stable effects, as opposed to random effects, Hussman test will be used.

The results of F. Limer and Hussman tests for the third sub-hypothesis: As the results of Hussman test for the second sub-hypothesis show that the probability of the statistics of this test is lower than the error level of 5%, making use of stable effects method is supported. The results of F. Limer test for the third sub-hypothesis reveal that the probability of the statistics of this test is lower than the error level of 5%, making use of tableau data is supported. The results of Hussman test for the third sub-hypothesis of the research show that the probability of the statistics of this test is higher than the error level of 5%, making use of random effects method is supported.

The results obtained from the relationship between management incumbency duration and the duration of operational cycle

hypothesis,	F-statistic	D-W	R2	t Prob.	t-Statistic	Coefficient
main hypothesis	9/1032	2/2632	0/7125	0/0006	3/7923	3/1253
The first sub-hypothesis	3/6244	2/3231	0/7362	0/555	-1/7145	-1/6325
the second sub-hypothesis	2171/575	2/40	0/66	0/0004	-3/589	-0/0007
the third sub-hypothesis	5/6531	2/2632	0/7252	0/6531	0/8160	0/1023

The regression model of the stable effects of the main hypothesis of the research shows that duration of management incumbency has a positive significant effect on the duration of operational cycle. Because, in addition to the positive sign of regression coefficient, the probability of its t-statistics is lower than the error level of 5%. The investigation of the self-correlation between the variables of the research was done through using Dourbin-Wattson test. As the value of this statistics (2.26) is in the range of 1.5 – 2.5, inter correlation between research variables is rejected. Based on adjusted coefficient, nearly 71% of the duration of the cycle is operational. Taking into account the effects of controlling variables, the changes of the duration of management incumbency will be explained. To assess the significance of the model F-Test has been used. Because the probability of the statistics of F-Test is lower than the error level of 5%, the significance of the model is supported.

The results of testing of main hypothesis show that the duration of management incumbency has a positive-significant effect on the duration of the operational cycle of the firms accepted in Tehran stock exchange. In other words, when the duration of the management incumbency of the firms accepted in Tehran stock exchange increases, the duration of their operational duration will be increased, too.

The results of the first sub-hypothesis: The regression model of the effect of management incumbency duration on the goods inventory circulation of the first sub-hypothesis is rejected, as the sign of the statistics of t, related to management incumbency duration, is negative and the probability of it is higher than the error level of 5%. Therefore, management incumbency duration has not a positive significant effect on the goods circulation period. The inter correlation between the variables of the research was assessed by Dourbi-Watson test. As the value of the above-mentioned statistics (2.32) comes in the range of 1.5-2.5, the inter correlation between the variables of the research is rejected. Based on the adjusted determined coefficient, nearly 73% of the changes in goods circulation duration by management incumbency duration, while considering the effects of controlling variables, will be explained. The results obtained from the testing of the first sub-hypothesis of the research show that management incumbency duration has a negative non-significant effect on the period of goods inventory circulation of the firms accepted in Tehran stock exchange. In other words, with the increase of management incumbency duration of the firms accepted in Tehran stock exchange, the duration of goods inventory circulation will decrease.

The results of the second sub-hypothesis: The regressive model of the effects of management incumbency duration on the period of debts collection shows its negative non-significant effect, because, in addition to the positive sign of its regressive coefficient, the probability of its statistics is less than the error level of 5%. Therefore, the second hypothesis of the research will not be rejected. In other words, the duration of management incumbency has a negative non-significant effect on the period of debts collection. According to the adjusted determined coefficient, nearly 66% of the changes in the period of debts collection by the changes in the period of management incumbency, while considering the effects of controlling variables, can be explained. Through using Dourbin-Watson Test, the inter correlation between research variables is rejected. As the value of the above statics (2.40) is in the range of 1.5-2.5, the inter correlation between research variables is rejected. Finally, for assessing the significance of the model, F-test was used. As the probability of the above statistics is less than the error level of 5%, the significance of the model is supported. In other words, when the duration of management incumbency of the firms accepted in Tehran stock exchange increases, the period of debts collection is increased.

The results of the third sub-hypothesis: The regressive model shows that management incumbency duration has a positive but non-significant effect on the period of debts payment, because the probability of its t-statistics is higher than 5%. Therefore, the third sub-hypothesis is rejected. The inter correlation between research variables was assessed through Dourbin-Watson test. As the value of the above-mentioned statistics (2.26) is in the range of 1.5-2.5, the existence of auto correlation between research variables will be rejected. Based on the determined adjusted coefficient, nearly 72% of the period of debts repayment by management incumbency duration, at the same time considering the effects of controlling variables, can be explained.

The results obtained from the third sub-hypothesis of the research show that management incumbency duration has a positive but non-significant effect on the period of debts repayment of the firms accepted in Tehran stock exchange. In other words, with the increase of the management incumbency duration of the firms accepted in Tehran stock exchange, the period of the operational cycle will increase.

5: Conclusion, limitation, & suggestions

General conclusion and discussion:

As it was said, the main goal of this research was to investigate the effect of management incumbency duration on the duration of operational cycle in the firms accepted in Tehran stock exchange. The general conclusions of the research before the testing of the hypothesis are as follow:

The results of Lin, Levin and Chu Tests show that the independent, dependent, and controlling variables have been reliable during research period.

As the probability of Jarque-Bera statistics for all models has been higher than 5%, it can explain the normality of the data.

Wang and colleagues showed in 2013 that there was a negative significant relationship between inflation operational period and the reservation of the cash. They showed in 2010 that re-evaluated financial statements have been effective on management incumbency duration and general manager's circulation of money which can result from the intensification of the super-visional activities of Sarbnez-Exli act. Al Mcliland and co-researchers, in 2012, showed that a general manager, with a short occupational horizon (this variable has been measured their age) would make use of the strategy of risk aversion which, in average, will have a negative effect on the firm's future performance. Antia and colleagues, in 2010, showed that the short horizon of general manager's decision making is related to increasing the costs of representation, reduction the value of the firm, and the higher level of information risk. Zheng in 2010 revealed that the managers outside the board of directors, in the early stages of their incumbency would have higher premium based on the percentage of the rights of the stockholders. This will decrease for internal managers in the end of the period of their incumbency. Brookman and Di Tistle, in 2009 proceeded to test the risk of the general manager's end of work and the factors effective on it and its effect on the firm's value. Through making use of the survival analysis they concluded that the risk of the end of work will increase for 13 years and the duration of management incumbency for 82% of the managers is less than 13 years. The duration of management incumbency will increase with efficiency and premium and the super-vision of the board of managers leads to the reduction of management duration and the change in the risk of the end of work does not have a significant effect on the value of the firm. Molla'e, in 2014, showed that inflation and operational term are not effective on reserved money of the firms. Hussein-Zadeh, in 2014, illustrated that operational cycle and inflation have a reverse significant effect on cash reservation. Reza'e and colleagues, in 2013, showed a positive significant relationship between operation cycle and the firm's level of conservatism, between the structure of institutional ownership and level of conservatism, but there was not a significant relationship between the structure of gross ownership and the level of conservatism. Sadeqi-Kia and colleagues, in 2013, showed that there was not a significant relationship between the resort to facilitating activities for the profit and the firms with long durations of management duration and the firms with short term of management. Zamani and colleagues, in 2013, supported the positive management of the profit in the final year of the presence of general manager but did not find any evidences of the negative management of profit in the first year or positive management of profit in the second year. Gholami-i Saiti showed in 2012 that the effect of the board of directors' incumbency duration is not effective on the quality of financial reporting and stability of the profit. Mazaheri showed in 2012 that long term of management incumbency duration is related to information risk and the value of the firm, but there is not a significant relationship between general manager's incumbency duration and the costs of representation. Bolou and colleagues showed in 2012 that there was not significant relationship between the duration of operational cycle and the stability of promissory items that is the firm having longer operational term have less stable promissory items. Moradi in 2012 revealed that the relationship between operational cycle and the quality of promissory items is inverse and significant. Mohammadi showed in 2009 that there was an inverse significant relationship between the profitability of the firms and the period of claims recollection, between the turnings of the inventory of the price, the period of the creditors' deposits and the cycle of cash change.

The results of the main hypothesis testing of the research shows that management incumbency duration has a positive significant effect on the duration of operational cycle. In other words, with the increase of management duration the duration of operational term is also increased.

The results of the second sub-hypothesis testing shows that management incumbency duration has a negative non-significant effect on the period of claims recollection. In other words, with the increase of management incumbency duration, the period of claims collection decreases.

The results of third sub-hypothesis testing reveals that the duration of management has a positive non-significant effect on debts repayment period. In other words, with the increase of management incumbency duration, debts repayment period is increased. The summary of the results of the research has been shown as followed table.

The summary of the results of the research hypothesis testing

Number	Hypothesis	Title	Kind of effect	(non)significant	Support or reject
1	main hypothesis	Management incumbency has a positive significant effect on operational cycle	positive	Significant	Supported
2	the first sub-hypothesis	Management incumbency duration has a positive significant effect on goods inventory circulation	negative	Non-significant	Rejected
3	the second sub-hypothesis	Management incumbency duration has a positive significant effect on claims collection	negative	Significant	Supported
4	the third sub-hypothesis	Management incumbency duration has a positive significant effect on debts repayment period	positive	Non-significant	rejected

Suggestion based on the results from the research hypotheses testing

As the main hypothesis of the research states that the effect of the management incumbency duration on the duration of operational cycle is positive and significant, that is, with the increase of management incumbency duration, the period of operational term increases, the analyzers, investors, and the actives in the market, shareholders of the firms, especially those having major shores, are advised to pay more attention to the mechanisms of firm's sovereignty such as auditing, transparency, disclosure, observing shareholders' rights, and so on.

As according to the first sub-hypothesis, the effect of management duration on good circulation is negative and non-significant, the managers of the firms can, through making use of JIT system, proceed to timely production and reduce the period of goods delivery, so that they can decrease the period of operational cycle.

With regard to the second sub-hypothesis of the research which states that the effect of management duration on claims collection is positive and significant, the managers can find good customers and offer their goods and services to them in order to persuade these customers to settle their accounts, and, this way, eliminate doubtful and uncollectable claims and decrease the period of claims collection period which loads to the decrease of operational cycle. Taking into account the third sub-hypothesis, which says that the effect of management duration on debts repayment is negative and non-significant, it can be said that, with the increase of management duration, the period of debts payment will decrease, therefore, the managers and shareholders of the firm are advised to reduce debts payment period through internal controlling policies of the mechanisms of the firm's sovereignty. In the end, it is suggested that to continue this research for each of industries separately within a longer duration.

Limitation of the research:

In conducting each research, there are some factors; which are outside the control of the researcher, but can potentially effects the results. Therefore it is necessary to analyze the results with taking into account the limitations.

This research is not an exception and has the following limitations:

1-Limitaions in analyzing the data financial statements including:

A: Financial ratios are circulated in a specific time period and that they do not consider the future trends

B: They are calculated as to historical data (past) and their generalization does not seem reasonable.

C: Financial ratios are subject to the principle and methods of the accounting system used by the firm and the firms can easily use the methods which can change the ratios.

D: The ratios just provide quantitative standards and do not provide any explanation about the qualitative features of the subject measured.

3: Executing personal tastes of managers instead of basic purposeful policies which result in the increase or the decrease of the period of the operational cycle of the firms.

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