Impact Of JIT On Firms’ Financial Performance
Some Iranian Evidence

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Abstract- Financial performance is the main objective of profit seeking companies. The implementation of the just-in-time philosophy will have a profound impact on financial performance. The objective of this article is to help establish the extent to which just-in-time may affect to Iranian companies’ financial performance. The result of the study shows that the implementation of just-in-time will cause more strength not only in non-financial aspect but in financial aspect too. Further the result reveals that there is a hug gap between the actual levels of implementing just-in-time as well the expected level.

Keywords: Just-in-time, Financial performance, and Iran

I. INTRODUCTION

U nder intensive global competitive pressure, most companies around the world have applied innovative thinking to management and begun to examine technology that can lead to improved manufacturing flexibility, product quality and production cost (Brox and Fader, 2002 and Chu and Shih, 1992). In competitive world markets most manufacturing companies have learned that survival rests on a commitment to continual process, and product improvement compete with high quality of product and low price (Salehi and Valizadeh, 2007). In today’s rapidly changing marketplace a company must deliver low cost together with high quality and reliability of product to ensure retaining an adequate market share.

Advancements in information technology (IT) have enabled companies to use computers to carry out their activities that were previously performed manually. Therefore, improvements in the information technology have facilitated the use of cost and management accounting procedures. On the other hand, most of the companies have started to apply just-in-time (JIT) production system as a tool to become competitive. Companies applying JIT production system aim at minimizing all inventory levels and delivering the goods and services to customers on time. In this sense, use of IT has also helped companies apply JIT production system more effectively. The aim of this paper is to identify how improvements in JIT have influenced financial performance of Iranian manufacturing companies. Time-based competition is one of the most important recent trends in a business environment and JIT philosophy plays an increasingly prominent role in the modern industrialised era (Fullerton et al, 2003). JIT is an all-inclusive organisational philosophy designed to achieve high volume production using minimum inventory at the right time and based on planned elimination of all waste and continuous improvement (Fullerton and McWatters, 2001; Peng and Chuan, 2001; and Oral et al, 2003). JIT’s focus on excellence through continuous improvement requires a performance measurement system that evaluates the changes in quality, setup times, defects, rework and throughput times (Fullerton and McWatters, 2002).

JIT should be linked to critical success factors at all organisational levels (Fullerton and McWatters, 2002). JIT philosophy of manufacturing management has received widespread attention over the last few decades and still plays a prominent role in the modern manufacturing era. JIT is also known as ‘Toyota Production System’ (TPS) and under the label ‘lean manufacturing’, the adoption of JIT become more widespread (Swamidass, 2007). One of the main priorities of JIT production is to understand JIT philosophy and its elements.

II. JIT: THE CONCEPT AND DEFINITION

Abrahamson (1996 and 1997) described management philosophies such as JIT, Total Quality Management (TQM), quality circles, business process re-engineering, management by objectives, job enrichment, empowerment and downsizing as management ‘fashions’. Before Ford, most automobile plants fashion by master craftsmen and after Ford, the span of worker control was condensed, production was rationalised, efficiency soared and the world was put on wheels Krafck, 1988). Krafck (1988) further argued that many of Ford’s principles are still valid and form the basis of Toyota Production System (TPS), which is later called just-in-time (JIT) manufacturing. JIT manufacturing has received widespread attention and has been widely reported on over the last few decades. The first article on JIT manufacturing was published in late 1970s (Keller and Kazazi, 1993). The JIT concept was founded in 1937 by Kiichiro Toyoda, whose basic thought was “just make what is needed in time, but not make too much” (Toyoda, 1987). The basic idea of JIT was brought in to high level of sophistication by Taiichi Ohno at the Toyota Motor Company in Japan and the JIT approach was first called Toyota Production System (Sohal, et al, 1988).

JIT manufacturing is a philosophy of operations management based on planned elimination of all waste for the purpose of cost reduction and continuous improvement...
of quality, productivity and customer satisfaction. Ohno (1982) defines JIT as:

"Having the right part at precisely the right time, and in the right quantity, to go into assembly”

Schonberger (1982) defines JIT as:

“Produce and deliver finished goods just-in-time to be sold, sub assemblies just-in-time to be assembled into finished goods, fabricated parts just-in-time to go into the sub assemblies and purchased materials just-in-time to be transformed into fabricated parts.”

Chakravorty and Atwater (1995) claims:

“The core of JIT philosophy is continuous improvement through the elimination of waste.”

APICS (1992) provides a broad definition of JIT manufacturing as:

“A philosophy that encompasses the successful execution of all manufacturing activities required to produce a final product, from design engineering to delivery and including all stages of conversion from raw material onwards. The primary elements include having only the required inventory when needed; to improve quality to zero defects; to reduce lead time by reducing setup times, queue lengths and lot sizes; to incrementally revise the operations themselves; and to accomplish these things at a minimum cost.”

Voss and Robinson (1987) developed comprehensive definition to JIT concept as:

“A production methodology which aims to improve overall productivity through the elimination of waste and which leads to improved quality. In the manufacturing/assembly process JIT provides for the cost-effective production and delivery of only the necessary quality parts, in the right quantity, at the right time and place, while using a minimum of facilities, equipment, materials and human resources. JIT is dependent on the balance between the stability of the users’ scheduled requirements and the suppliers’ manufacturing flexibility. It is accomplished through the application of specific techniques which require total employee involvement.”

More recently, Heizer and Render (2004) defined JIT as:

“A philosophy of continuous and forced problem solving that supports lean production, driven by the ‘pull’ of the customer’s order.”

JIT involves a series of operating concepts and techniques that identifies operational problems systematically, finds solutions and corrects problems so that defects are never sent to the next process. The main objective of JIT is to supply the right materials at the right time in the right amount at each step of the production process in the most economical manner. It covers all activities of the production system, from the design of the product through production to delivery to the customer (White and Ruch, 1990).

III. ADVANTAGES OF JIT

The advantages of the JIT philosophy are many. Giunipero et al. (2005) say that JIT has led to several benefits which include lower production cost, higher and faster throughputs, better product quality, reduced inventory costs, and shorter lead times in purchasing. According to an American study of U.S. Manufactures, companies can expect improved performance in lead times, quality levels, labour productivity, employee relations, inventory levels and manufacturing costs (White, Pearson, and Wilson, 1999).

Fullerton and McWatters (2001) summarised benefits in to five categories: quality benefits, time-based benefits, employee flexibility, accounting simplification and firm profitability. The increase in performance is usually attributable to a decrease in inventory levels, smoother production flow, lower storage cost and ultimately a decrease in average cost per unit (Hall, 1989). Callen et al. (2000) reported that JIT plants have significantly less WIP than non-JIT plants. JIT plants also store fewer finished products and have lower variable and total costs than the non-JIT equivalent. Callen and co-workers further found that JIT plants are significantly more profitable than non-JIT plants, but are neither successful at minimising WIP and costs nor maximising profits.

It is possible to observe that traditional performance measurement system is inconsistent with JIT system benefiting from technological innovations at a maximum level and also that it prevents or hides broad-based effectiveness of new production methods. In this sense, the restrictions of traditional measurement system in JIT environment might be listed as follows:

a) Continuous development in production process is basic element in JIT manufacturing environment. To reach this aim easily, it’s intended to make flow of production possible with minimal parties and decreasing stock levels to a minimum. Yet, production and productivity measures of traditional understanding have reported that the productivity is low when small-lot production is made (Drury, 1990). For this reason, traditional accounting system suggests increasing batch capacity rather than decreasing lot size, which leads to raising stock levels, long supply process, increasing cost and declining customer satisfaction (Mcnair, Lynch and Cross, 1990).

b) As in standard costing, appropriate operational control of traditional accounting system cannot be carried out in today’s production environment (Allott, 2000; Cheatham and Cheatham: 1996; Ezzamel, 1992). Besides, due to the reliability and consistency of manufacturing processes in JIT environment, deviations do not exist or exist in quite low level and it also leads to less use of deviation analyses.

c) JIT manufacturing system changes will bring about changes in information requirements (Upton, 1998). As it is known, normally traditional performance reporting is prepared monthly or weekly and cannot detect on time real reasons of processes that are not realized as expected. Yet, in JIT production system there is a possibility of short production cycle, so it requires information for the problems coming out in accordance with one-day or “real time” principal.

- reduced process time, setup time and lead time;
- reduced raw material, WIP and finished goods inventory levels and lot size;
- improved machinery and reduced machine breakdowns and downtimes;
- minimised space requirement;
- improved flow of products;
- lowered production costs;
- simplified production processes;
- improved quality;
- improved flexibility, multifunctional ability, motivation and problem solving capability of employees;
- increased productivity and performance;
- improved consistency of production scheduling; and
- increased emphasis on supplier integration

IV. PERFORMANCE MEASUREMENT

Many factors contribute to why many firms prefer non-financial performance measures. In view of this, some researchers suggest that the preference for these measures on a large scale is related to the enterprises operational and competitive structure (Said, et. al., 2003). Others suggest that this preference can be related to the JIT structure (Hoque, et al, 2001). Callen et al., (2005), Itner and Larcker (1995) examined the use of BSC together with the aforementioned modern techniques and argued that enterprises using the JIT and non-financial (production performance) measurements together have achieved a higher performance than other firms without these measurements. Perera, Harrison and Poole (1997) argue that the use of non-financial measures show significant associations with customer focused strategy, but not the link to organizational performance.

From the nineteenth century to the 1920s, there was a huge boom in innovation of financial and management accounting techniques. Accounting is the process of identifying, measuring and communicating economic information to make relevant judgements and decisions by users of the information. Literature concerning performance measurement can be divided into two main phases (Ghalayini and Noble, 1996). The phase from late 1880s to 1980 emphasised on financial measures and the second phase started in the late 1980s as a result of changes in the world market. Traditional accounting systems are classified in to two groups, according to the users of the information:

- Financial accounting systems (external users),
- Management accounting systems (internal users)

So, one of the important performance measure is JIT. From recent years on, some manufacturing businesses have tried to eliminate the need to hold stocks by adopting JIT (Atrill and McLaney, 2002). The essence of JIT philosophy is to eliminate waste.

Managers try to (1) reduce the time that products spend in the production process and (2) eliminate the time that products spend on activities that do not add value (Horngren et al, 2002). JIT refers to a system in which materials arrive at the right place exactly as they are needed. Demand drives the procurement of materials and production of the product. A key element of JIT is just-in-time production. JIT production is a system in which each component on a production line is produced immediately as needed by the next step in the production line (Horngren et al, 2002). In other words, in a JIT setting, demand triggers each step of the production process, starting with customer demand for a finished product at the end of the process and working all the way back to the demand for direct material at the beginning of the process.

Kaplan (1984) mentioned that “virtually all the practices employed by firms today had been developed by 1925”. Kaplan argued that despite considerable changes in the nature of organisations and the dimensions of competition after 1920s, there has been little innovation including discounted cash flow and residual income in the cost accounting and management control systems. Kaplan further stated that the standardisation of internal and external reporting to regulatory bodies is a reason for slow innovation in MAS. Hence, until late 1980s, performance measures based on MAS played a vital role in financial performance measurement. These financial measures focused on profits, productivity, return on investment, standard cost variance analysis, turnover, current ratio, and liquidity ratio. Performance measurement is a critical aspect of management accounting systems within a JIT environment (Upton, 1998). However, the use of efficiency variances may encourage buffer stocks rather than demand and also, price variance may lead to purchase of low quality materials (Upton, 1998).

Various studies have considered productivity and profitability as the major indicators in financial performance measures. Productivity may be simply defined as the ratio of output to inputs. It is concerned with the efficient utilisation of resources (inputs) in producing goods and/or services (output) (Sumanth, 1984). The most important characteristics of productivity measures are its ability to reveal factors contributing to changes of productivity, to detect factor substitutions, to determine relative contribution of various inputs and outputs and to distinguish price effects from changes in physical productivity (Misterek et al., 1992). However, Bond (1999) categorised process time and cost of waste as determinants of productivity, which are non-financial operational performance measures. Mistry (2005) found that, though JIT has been widely implemented, interest in documenting its impact on financial performance and productivity was generated during last few decades. For example, Inman and Mehra (1993) established the link between JIT benefits and bottom line financial measures. Olsen (2004, cited in Swamidass, 2007) is stated that “lean/JIT firms tend to have better return on equity”, since lean/JIT is associated with low inventories. However,
according to Fullerton and McWatters, (2002), the use of financial performance measures under the present competitive market conditions appears unsustainable due to various reasons. Therefore, performance measurement system of a corporate using JIT production system should support basic variations such as increasing product or service quality, continuous development and reducing the losses (Hendricks, 1994; Fullerton, 2003).

V. RESEARCH PROBLEM

According to review of literature the research problems arise from two sides namely, first according to Kazazi and Keller (1994) little research has been reported on the quantitative tangible and intangible benefits of JIT implementation. So, in this area just little study has done in well developed countries and developing countries suffer the lack of research in this aspect. Second, according to the Swamidass (2007), organisations experienced various benefits by implementing JIT based on twin foundations of waste reduction and continuous improvement. Womack and Jones, 1996, Brox and Fader, 1997, Voss and Blackmon, 1998 and Standard and Davis, 2001 identified the philosophy underlying JIT is ‘continuous improvement’ by implementing ‘pull production’ and ‘eliminating all kind of wastes’. Therefore, it is essential to pay attention to this very vital aspect in developing county such as Iran.

VI. RESEARCH OBJECTIVE

A pivotal question in the survey was to determine if companies had introduced the JIT philosophy. JIT is usually considered as a philosophy to eliminate waste, rather than as a set of techniques (Cobb, 1993). So, it will affect to financial performance. The main objective of the study is in which extend implementation of JIT will affects on financial performance.

VII. REVIEW OF LITERATURE

The philosophy emphasizes excellence in eliminating waste through the reorganization of manufacturing processes (Hall, 1983). When a manufacturer uses the JIT strategy to purchase raw material or parts, the terminology is “a JIT purchasing system” (Lee & Wellan, 1993). When Just-In-Time is applied to a purchasing strategy it becomes about frequent releases and deliveries; allowing for the reduction of buffer inventories in the buying plant. This is due to the confidence in the supplier’s delivery commitment (Schonberger & Gilbert, 1983). The research study of Swamidass (2007) confirmed that in industries using JIT practices, top performing firms have greater success with inventory reduction than bottom performers and concluded that in the JIT era, inventory is associated with overall firm performance. Laugen et al, (2005) found that high and low performing organisations differ in terms of implementation “width” and “depth” of action programmes. Moreover, Laugen et al, (2005) identified that high performing organisations implement more concepts compared to low performers and more committed to continue implementing the programmes even if the results are long term. The authors further found the combination of process focus, pull production, equipment productivity and environmental capability has a significant positive effect on performance. Gonzalez-Benito, (2002) do not agree that JIT purchasing should be explained as a simple set of practices but rather that it is understood to be a philosophy Schonberger & Gilbert (1983) have developed a list of characteristics describing the JIT purchasing environment.

VIII. RESEARCH METHODOLOGY

The participants of the study were the top managers of listed companies in Tehran Stock Exchange (TSE). In this study managers of manufacturing were chosen. Randomly 130 questionnaires were distributed among the managers. Out of 130 questionnaires, only 70 usable questionnaires were returned by managers. The returned questionnaires resulted in a response rate of 53.85 percent.

In order to gathering usable data a three- part questionnaire was designed according to the study of Dixon et al, (1990), Gupta and Somers (1996), and Ahmand, Mehra, and Pletcher (2004). The questionnaire contained questions that asked the participants to indicate the level of emphasis placed by their factors on certain JIT elements.

IX. THE RESEARCH HYPOTHESES

According to the research problems and objective as well, the following hypotheses were postulated in the study

1. The financial companies’ performance increases by the application of JIT.
2. The growth companies’ performance is guaranteed by the application of JIT.
3. The activities related to the evaluation of Iranian companies' performances will have a great efficiency by the application of JIT system.
4. There is a difference between the existing situations of the companies in the application of the performance evaluation and the favorable situation regarding to JIT.

X. TESTING OF THE HYPOTHESES

The regression analysis:

The regression analysis has had a close relation with the correlation coefficient and generally it is used in the studies simultaneously which makes it possible for the researcher to predict the changes of the dependent variant via the independent variant. If the correlation between the variants is stronger, the prediction will be more accurate. Their difference is that the regression follows the prediction while the correlation coefficient just examines the value of the dependence of the two variants. But in data analysis they are used as a supplementary for each other.

Hypothesis 1: The financial performance of the companies increases by the application of JIT.

In Table 1 the summary of the regression calculations performing between the dependent variant of the financial performance with JIT has been noted:
Table 1. The result of testing first hypothesis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation Coefficient ((r))</th>
<th>Determination Coefficient ((r^2))</th>
<th>F</th>
<th>p-value</th>
<th>N</th>
<th>width ((a))</th>
<th>Slope ((b))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial function and JIT</td>
<td>0.671</td>
<td>0.45</td>
<td>55.552</td>
<td>0.000</td>
<td>70</td>
<td>0.585</td>
<td>0.767</td>
</tr>
</tbody>
</table>

It is noticed that the correlation coefficient between these two variants is 0.671 which shows an intense correlation. As this coefficient is positive we can say that their changes will be at the same direction. In other word, the financial performance of the companies increases by the application of JIT. The determination coefficient is 0.45 which means that 0.45 of the dispersion of the dependant variables (financial performance) is justified by the regression pattern. The regression line for this equation is: \( Y = 0.585 + 0.767x \)

Now we want to see that whether this extracted correlation in the above example is extendable into research society or not. We can define zero and one assumptions like this:

H0: \( \rho = 0 \)

H1: \( \rho \neq 0 \)

Here \( \rho \) is the correlation coefficient between the two variables.

Considering the P-value=0.000 which is noted in the above table, we can say that assuming the angle coefficient to be zero or assuming the inexistence of the correlation between these two variants in significance level of 5percent is rejected, therefore we can say that the financial performance increases by the application of JIT.

Hypothesis 2: The growth performance of the companies is guaranteed by the application of JIT.

In the table below the summary of the regression calculations performing between the dependent variant of the growth performance with JIT has been noted

Table 2. The results of second hypothesis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation Coefficient ((r))</th>
<th>Determination Coefficient ((r^2))</th>
<th>F</th>
<th>Error level ((p))</th>
<th>Number ((n))</th>
<th>width ((a))</th>
<th>Slope ((b))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth function and JIT</td>
<td>0.796</td>
<td>0.639</td>
<td>120.33</td>
<td>0.000</td>
<td>70</td>
<td>0.392</td>
<td>0.749</td>
</tr>
</tbody>
</table>

It is noticed that the correlation coefficient between these two variables is 0.796 which shows an intense correlation. As this coefficient is positive we can say that their changes will be at the same direction. In other words the growth performance of the companies increases by the application of JIT.

The determination coefficient is 0.639 which means that 0.639 of the dispersion of the dependant variant (growth performance) is justified by the regression pattern. The regression line for this equation is: \( Y = 0.392 + 0.749x \)

In this equation \( y \) is the dependent variant (growth performance) and \( x \) is the independent variable (JIT).

Now we want to see that whether this extracted correlation in the above example is extendable into research society or not. It may be defined the null and research hypothesis as following respectively:

H0: \( \rho = 0 \)

H1: \( \rho \neq 0 \)

Here \( \rho \) is the correlation coefficient between the two variants.

Considering the P-value=0.000 which is noted in the above table, we can say that assuming the angle coefficient to be zero or assuming the inexistence of the correlation between these two variants in significance level of 5percent is rejected, therefore we can say that the growth performance increases by the application of JIT.

Hypothesis 3: The activities related to the evaluation of Iranian companies' performances will have a great efficiency by the application of JIT system.

In the table below the summary of the regression calculations performing between the dependent variant of the evaluation of the performance with JIT has been noted
Table 3. The result of testing third hypothesis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation Coefficient (r)</th>
<th>Determination Coefficient (r²)</th>
<th>F</th>
<th>Error level (p)</th>
<th>Number (n)</th>
<th>width (a)</th>
<th>Slope (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of the function</td>
<td>0.742</td>
<td>0.556</td>
<td>83.345</td>
<td>0.000</td>
<td>70</td>
<td>0.784</td>
<td>0.67</td>
</tr>
<tr>
<td>JIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is noticed that the correlation coefficient between these two variables is 0.742 which shows an intense correlation. As this coefficient is positive we can say that their changes will be at the same direction. In other words the growth performance of the companies increases by the application of JIT.

The determination coefficient is 0.556 which means that 0.556 of the dispersion of the dependant variant (evaluation of the performance) is justified by the regression pattern. The regression line for this equation is:

\[ Y = 0.784 + 0.67x \]

In this equation y is the dependent variant (evaluation of the performance) and x is the independent variables (JIT).

Now we want to see that whether this extracted correlation in the above example is extendable into research society or not. It may define the null hypothesis and research hypothesis as following:

H0: \( \rho = 0 \)

H1: \( \rho \neq 0 \)

Here \( \rho \) is the correlation coefficient between the two variables.

Considering the P-value=0.000 which is noted in the above table, we can say that assuming the angle coefficient to be null or hypothesis the inexistence of the correlation between these two variables in significance level of 5 percent is rejected, therefore we can say that The activities related to the evaluation of Iranian companies' performances will have a great efficiency by the application of JIT system.

Hypothesis 4: There is a difference between the existing situations of the companies in the application of the JIT and the favorable situation.

For examining the above hypothesis the non-parametric test, Wilcox on Signed Ranks Test, has been used. The summary of performing this test is noted in the table below

Table 4. The results of testing fourth hypothesis

<table>
<thead>
<tr>
<th>Ideal situation of JIT</th>
<th>N</th>
<th>Mean Rank</th>
<th>RanksSum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal situation JIT</td>
<td>55(a)</td>
<td>35.00</td>
<td>1925.00</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>10(b)</td>
<td>22.00</td>
<td></td>
</tr>
<tr>
<td>Ties</td>
<td>5(c )</td>
<td></td>
<td>220.00</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Statistics (b)</th>
<th>Ideal situation JIT-JIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-5.580(a)</td>
</tr>
<tr>
<td>Asymp. Sig.(2-tailed)</td>
<td>.000</td>
</tr>
</tbody>
</table>

a Ideal situation jit<JIT
b Ideal situationjit>JIT
c Ideal situationjit=JIT

Considering the P-value=0.000 we can conclude in significance level of 5 percent, assuming the inexistence of the difference between the existing situation of Iranian companies in the application of the JIT and the favorable situation is rejected, therefore we can say that there is a great gap between the existing situation of Iranian companies in application of JIT and the favorable situation.
XI. CONCLUSION

The basic idea of JIT is, as Schonberger (1982) maintains, a simple one: produce and deliver finished goods just in time to be sold, sub-assemblies just in time to be assembled into finished goods, fabricated parts just in time to go into the subassemblies and purchased materials just in time to be transformed into fabricated parts. JIT as a management philosophy has engendered great interest internationally since the early 1980s. JIT was first implemented by Toyota Motor Company in the early 1970s and has since spread to other Japanese companies and globally. It is recognised as one factor contributing to Japan’s reputation for superior quality and growth in productivity (Keller and Kazazi, 1993). The findings from the informal discussions confirmed the key issues elicited from literature review (White and Ruch, 1990, Billesbach et al., 1991, Funk, 1995 and White and Prybutoc, 2001) that there are no universally accepted JIT techniques and performance measures. They appear to vary from plant to plant, organisation to organisation, industry to industry and also from culture to culture. The results of this research showed that in Iran like other countries, the application of JIT increases the financial performance of the companies. According to the researchers, this method is one of the best methods for decreasing the expense and increasing the efficiency of the company. Another disturbance of director generals is the increase of the companies’ growth. In this research the results of the second hypothesis showed that the application of the JIT system increases the companies’ growth and spontaneously guarantees the long durability of the companies. The results of this research also showed that the application of JIT system causes the evaluation of the performance in different directorial levels and eventually it will increase the directors' responsibility and replication. According to the researchers, the increase of the directors' replication will cause the companies to have less declination in medium-term and long-term programs and also if there is any declination in fundamental goals, it will be identified and corrected at the shortest time. With all the guarantees the JIT system has for Iranian companies, the results of the fourth hypothesis showed that there is a great gap between the existing situation and the ideal situation and JIT system is performed imperfectly in Iranian companies: Eventually the researchers conclude, although the application of the JIT system in Iran increases the financial and non financial performance of the companies, but because of the weakness in performing the JIT, they can not benefit from it. The researchers strongly suggest that the barriers of performing the JIT system must be identified and removed as soon as possible, so the Iranian companies increase their financial performances.

XII. REFERENCES


