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REQUIREMENTS AND OBSTACLES OF USING JUST-IN-TIME (JIT) SYSTEM IN AL-HIMA PHARMACEUTICAL COMPANY IN JORDAN

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ABSTRACT

This study aimed to provide an understanding of Just- In- Time (JIT) system concept and its practices; identify the availability of the necessary elements for applying the JIT system in Al-Hima pharmaceutical company; and identify the problems facing the application of the JIT system in Al-Hima pharmaceutical company.

To achieve the objectives of the study, testing of hypotheses, interviews was conducted to a sample of (24) at the Al-Hikma Pharmaceuticals Company, the study included 24 interviews with managers of various administration levels and organizational units. The study adapted the qualitative analysis method to analyze the collected data through the total frequencies and percentages applications.

The most important results of the paper have been summarized as follows:

- *The managers' lack of knowledge to the concept of Just- In- Time (JIT) system and its benefits, in addition to the poor application and adoption of such system in that company.*
- *The existence of unsophisticated practices, tools and technologies that can be matched with Just- In- Time (JIT) system*
- *Components without being linked with the philosophy and values of the Just- In- Time (JIT) system.*
- *There are some individual initiatives to apply the Just- In -Time (JIT) system concept. However, those initiatives are still modest and separate from the rest of the departments and administrative units of the organization.*
- *There are several requirements should pay attention to implement (JIT) system such as: operation requirements, .social requirements, network requirements*
- *There are internal and external obstacles to implement (JIT) system -This recommendation for Al-Hikma Company and other organizations that consider or pursue Just- In -Time (JIT) system implementation in their companies; company*

The company should pay attention to application (JIT) system in all functions and units of organization, its ability to reduce waste and spoilage, reduce inventory, lower production costs, maintain quality, and make continuous improvement, as their impact increases profitability and strengthens competition.

KEYWORDS: *Just-In-Time (JIT); operation requirements, .social requirements, network requirements; obstacles*

INTRODUCTION

Just-In-Time (JIT) in production activities has been implemented successfully for the past 30 years in Japanese leading organizations and later on all over the industrially leading countries. It's appeared as a philosophy as well as a technique that guides a manufacturing organization in making business more effectively, and also in planning and controlling operations more efficiently. (Denny, 2003)

Kootanace, et al (2013) indicated that the Just-In-time (JIT) is a philosophy that applied in manufacturing activities and having the right items of the right quality and quantity in the right place at the right time. It has been widely reported that the proper use of JIT in manufacturing has resulted in increase in quality, productivity and efficiency, with improvement of communication and reduction in costs and wastes.

On another hand, APICS (American Production and Inventory Control Society) dictionary is defined Just-in-time (JIT) as "a philosophy of manufacturing based on planned elimination of all waste and on continuous improvement of productivity". (Panchal et.al. 2013) It also has been described as an approach with the objective of producing the right part in the right place at the right time (in other words, "just in time"). Waste usually results from any activity that adds cost without adding value, like the unnecessary moving of materials, the accumulation of excess inventory, or the use of faulty production methods that create products requiring subsequent rework. JIT (also known as lean production or stockless production) should improve profits and return on investment by reducing inventory levels through increasing the inventory turnover rate, reducing variability of materials, improving product quality, reducing production and delivery lead times, and reducing other costs associated with machine setup and equipment breakdown.

For these reasons, Just-in-time (JIT) has become a very popular subject currently being investigated by many worldwide organizations. Just-In-Time management involves the application of classic management approaches; however, their adaptation to the modern manufacturing organization is a relatively new practice. Meanwhile, currently many organizations are developing and applying the JIT approach in response to a very complicated competitive environment. In order to remain

competitive and experience economic achievements, the organizations have focused on increasing productivity, improving the quality their products and raising the standards of efficiency within their products and raising the standards of efficiency within their firms. The ability to achieve higher standards of productivity without sacrificing quality is also an important goal of a manufacturing firm. Over the long run, application of JIT manufacturing may assist these companies in achieving these goals of manufacturing excellence.

Meanwhile, the simple definition of JIT is to produce and deliver finished goods just in time to be sold, subassemblies just in time to be assembled into finished goods, fabricate parts just in time to go into subassemblies, and purchase parts just in time to be transferred in to fabricated parts. (Panchal et.al. 2013)

In a JIT environment, a supplier needs to adjust the production schedule simultaneously with the buyer's demand. The high-tech industries can be successful by following the JIT policy and a super-effective supply chain management since the price of their products is decreasing continuously. Chung and Wee showed that increases in quality, productivity, and efficiency can be achieved through JIT delivery agreements. JIT purchasing requires the buyers and suppliers coordinating their order and production policy.

In a nutshell, JIT is a system that produces the required items at the time and in the quantities needed. It is an approach that combines apparently conflicting objectives of low cost, high quality, manufacturing flexibility and delivery dependability. JIT is viewed as a level of perfection achieved by continuous elimination of the wasteful use of resources. The long term objectives of eliminating wastes in a manufacturing process that is so streamlined, cost efficient, quality oriented and responsive to the customer needs that JIT becomes a strategic weapon for productivity improvement. (Monden, 1996)

In a JIT system, just-in-time can eliminate waste, which means any items of production or service only move through the production system when needed (Billesbach, 1991)

More clearly, it refers to a production system that times movement of goods during production and delivery from suppliers together so that the batch arrives for processing nearly after completing the first batch. The JIT process

results in no idle items, idle workers, and idle equipment wait to process.

The concept behind JIT is similar to a pull system (Krupp, 1999) . Units of production or service pulled to just where just as needed. A pull system requests delivery and production from higher levels to satisfy the exact units necessary in lower levels. Moreover, with the pull system, inventory moves only as needed, and the ideal lot size is one piece. This method can cut excess inventory that hid production and quality problems. The hidden problems of production become clear and continuous improvement for quality then works.

LITERATURE REVIEW

The application of Just-in-time (JIT) in the inventory system is not a simple method that an organization has to buy it and apply in to; it has a whole philosophy that the company must follow. The ideas of this philosophy come from many different disciplines and activities including; statistics, industrial engineering, operations management and behavioral science. In the JIT inventory philosophy there are views with respect to how inventory is looked upon, what it says about the management within the company, and the main principle behind JIT. Radisic has introduced the components of Just-in-time (JIT) system consisting of process design, suppliers, employees, decision- making and system improvement. (Radisic, 2012)

However, Gupta (2012) showed the JIT principles that can be integrated in these components and what benefits can be achieved in healthcare environment. He explained further that these components make JIT purchasing, labor intensiveness and JIT procedures, JIT functional (quality, suppliers and workers a factors that will help achieving the successful implementation of JIT in health care operations.

Kootanace,et al (2013) point out that JIT manufacturing consist of several components or elements which must be integrated together to functions in a harmony style to achieve the JIT goals. These elements essentially include the human resources, production, and purchasing, manufacturing, planning and organizing functions of an organization. He adds three ways JIT can assist management in obtaining a competitive advantage.

1. Integrating and optimizing this involves reducing the operation and resources which do not facilitate production. 2. Improving

continuously this involves continually trying to improve processes and systems.

3. Understanding the customer this entails reducing the cost of products and satisfying consumer needs.

On another hand, The JIT system is really about how Toyota meets the mass customization needs of the market place. This provides flexibility, together with the ability to adapt production schedules to the demand change, whilst satisfying the timely cost-effective delivery of their products to customers.

On another hand Rachna & Peeter. (2007) defined the Lean production as an integrated socio-technical system whose main objective is to eliminate waste by concurrently reducing or minimizing supplier, customer, and internal variability. Indeed, going lean, improving organizational performance, seeing problems, solving them the rightll way, and in doing so continually increasing the intellectual capacity and skill of all members of the organization. (Michael and Marketa, 2012)

Lean implementation procedure need to combine the need to combine the “socio-technical systems”; that all work organizations combine a technical, i.e. technology, and a social system, i.e. people and organizational structures. Bhasin and Burcher (2005). However, JIT is a technique of production and service that developed out of the need to reach a defect free process (Cheng and Podolsky 1996).

Horngren and Forster (2010) identified four cardinal objectives of JIT as: (i) the elimination of all activities that do not add value to product or service. (ii) A commitment to a high level of quality (iii) A commitment to continuous improvement in the efficiency of an activity and (iv) An emphasis on simplification and increased visibility to identify activities that do not add value.

According to Hirano (1988), JIT involves five conceptual steps that start with Awareness review (discarding old concepts and turning to JIT way of thinking). This step is followed by the ‘5 S’ for workplace improvement (Seiri-proper arrangement, Seiton-Orderliness, Seiso-Cleanliness, Seiktsu-Cleanup and Shetsuke-Discipline). The five ‘S’ leads to flow manufacturing which replaces lot production characterized with one piece production. The fourth step is that building

products on equal quantity on each time levels production; this invariably leads to standard operation which is capable of maintaining flow.

Finally; Al- Matarneh (2012) show that many obstacles of application of (JIT) system as: Inadequate application of (JIT) system of the applied accounting system; Lack of integrated cooperation between suppliers and Management, There is no confirmation on the efficiency and success of application of this system.

IMPORTANCE AND THE OBJECTIVES OF THE STUDY

Just-in-time (JIT) system is a production and inventory control system in which materials are purchased and units are produced only as needed to meet actual customer demand. This system leads to the elimination of the inventory in all stages of the operations system and consequently to reduce the high storage costs. So, the basic benefit of this system is thus its ability to increase the organization's ability to compete with others and remain relevant over the long run, since with JIT, they can develop a more optimal process for their firms. JIT also reduces production costs through increased efficiency within the production process; and it reduces waste of materials, time and effort. us give the importance of this study is an attempting to identify the availability of the necessary elements for applying the JIT system in Al-Hima pharmaceutical company; and identify the problems facing the application of the JIT system in Al-Hima pharmaceutical company.

OBJECTIVES OF THE STUDY

The studies aimed to 1) clarify the concept of the JIT system and the interest accruing from its application;2) Identify the availability of the necessary elements for applying the JIT system in Al-Hima pharmaceutical company; 3) identifying the problems facing the application of the JIT system in Al-Hima pharmaceutical company

THE PROBLEM OF THE STUDY

The Jordanian Pharmaceuticals companies have become one of the most important economic sectors in Jordan in terms of excellence, both locally and externally, because of quality, competition, and continuous development. These companies have contributed to the Jordanian economy through the export of products abroad and the exploitation of local resources available. So, because of volatile economic conditions that

lead to the difficulty in the competitiveness for the business environment and Pharmaceuticals companies, resulting in the continuing rise in prices, these companies have to find other solutions to maintain competitiveness through reducing costs, instead of implementing easier solutions used by some companies-- by raising the prices-- which weakens the ability of these companies to compete.

We also note by looking at the financial statements of those companies that stock is a heavy burden on production costs. Therefore, the problem is identified in the following questions:

1. Does the AlHikma Pharmaceuticals Company have the operation requirements to apply the JIT system?
2. Does the AlHikma Pharmaceuticals Company have the net work requirements to apply the JIT system?
3. Does the AlHikma Pharmaceuticals Company have the social requirements to apply the JIT system?
4. Are there obstacles to applying the JIT system in AlHikma Pharmaceuticals Company?

HYPOTHESES OF THE STUDY

HO₁: AlHikma Pharmaceuticals Company does not have the operation requirements to apply the JIT system.

HO₂: AlHikma Pharmaceuticals Company does not have net work requirements to apply the JIT system.

HO₃: AlHikma Pharmaceuticals Company does not have the social requirements to apply the JIT system.

HO₄: AlHikma Pharmaceuticals Company does not have obstacles to apply the JIT system.

CONCEPTUAL FRAMEWORK

Just in Time (JIT) production is an approach that eliminates waste all types associated with time, labor, and storage spaces. Basics of the concept are that the organization produces only what is needed, when it is needed and in the quantity that is needed. JIT can also be defined as producing the necessary outputs, with the required quality, in the necessary quantities, at the last safe moment. It means that organization can manage with their own resources and allocate them very easily.

On the other hand, Gupta (2012) claimed JIT can be summarized as a system to eliminate waste and achieve excellence in an entire organization. The sole purpose of JIT is to eliminate all kinds of waste.

Accordingly, Just-In Time (JIT) became a management strategy used to reduce the cost (all kinds) by reducing the in-process inventory since 20th century. (Lim Cai, 2013)

Just-in- Time (JIT) method is generally in its application has two types of method in goods management inventory namely the push system and the pull system. Deviarti (2013) noted that difference between the two was just as the operational paradigm. In the push system, a machine undertook production process without having to await the demand from machine that would do next process. On other hand in the pull system, a machine did production process only if there was a demand from machine going to undertake another process. Also, the push and pull systems were associated with the information flow may define the push as an action to anticipate the needs, while the pull as an action to serve the demand.

The Goals of JIT System:

Kootanace, et al (2013) investigated three main manufacturing objectives for JIT: Increasing the organization's ability to compete with rival firms and remain competitive over the long run. These goals generally can achieved through the waste elimination requited a broader interpretation of JIT as a concept, rather than as simply an activity or function, as it was quickly discovered that JIT could not be a stand-alone programme. It evolved into a philosophy of management excellence blending high quality, low cost, flexibility, delivery and dependability, and became associated with commitment to organization and supply chain-wide continuous improvement. Such polices also imply reducing inventory levels while tending to increase dependence on a narrower supplier base. This in turn has led to recognition of a need to stabilize customer-supplier relationships and to eliminate risks of sudden or unilateral strategic policy, product or market changes — any one of which could leave the customer or supplier vulnerable to external competition or to a loss of end-market attractiveness. On the other hand, such stability can easily give way to the inertia of complacency, which is counterproductive to the quest for enhanced competitiveness. (Arnold& Bernard 1989).

The conceptualization of JTT as an element of corporate philosophy and a foundation for strategic development is thus a natural — albeit not inevitable — precursor to partnering and other forms of verdict strategic alliance. It needs to be handled continuously

with the same levels of care and attention as are customarily devoted to the establishment of new agreements.

The inability of some companies to identify the damage and waste makes the chances of achieving profits difficult.8) Continuous improvement in performance and ensuring the application of total quality.

Gupta (2012) show JIT is an approach, which is demand driven and encourages flow type production. It is also described as a drive to simplify the manufacturing system in order to quickly detect the problems and force. The elements of JIT system are: Group Incentive Scheme, Top Management Support, Customer Awareness, Ergonomics Design (Working Conditions), Employee Training, House Keeping (orderliness, cleanliness, discipline, and safety), Judoka (use of modern/automatic age), Flexible and multifunction workforce, Technical support, Ergonomics Design (Working Conditions), Organization Policies, Standardization, Group Incentive Scheme, Judoka (use of modern/automatic age), Job satisfaction, Expert Lectures, Employee Training, House Keeping (orderliness, cleanliness, discipline, safety), Employee Empowerment, Ergonomics Design (Working Conditions) and People strategy, Quality Circles, Sole Sourcing, Storage space reduction Degree of Complexity, Schedule Stability, Employee Feedback and Suggestions, Infrastructure (Aesthetic Value), Lead time/ Response time reduction, Value Addition Services (SDP).(Panchal,2013)

Jinglin (2015) has reviewed there are six key elements: Kanban system, the management commitment and employee involvement, elimination of waste, small lots and quick setups, total quality management, supplier relationships. The whole concept of the JIT is differentiated from traditional productions systems using push vs. pull systems of production. The push system of production pushes materials to the next stage of the production irrespective of whether time and resources are needed at the next level of production creating lot of inventories at each level of the production flow. The traditional manufacturing organizations adopt push system where they produce for inventory and work in progress.

To implement the JIT, the first condition is have stable and closed suppliers. A close relationships, stable and trust are the criteria of a successful JIT. There are few criteria of JIT suppliers should be concern to avoid the

failure of JIT. Diversification of suppliers should be applied, so that the company have different vendor that can provide raw materials continuously. Besides, the suppliers should be located near to buyer. Therefore, the raw materials can send directly to the work areas in a short period. The quality of the raw materials also can be maintain and deliver on time (Lim Cai, 2013).

Thus, waste includes quality defects, inventories of all kinds, time spent to move material and time spent in setting up the machines. If the implications of managing the reduction in waste for the categories mentioned above are analyzed, it becomes obvious why JIT is involved in all aspects of the management of production Process. The second principle of JIT involves the management of people. JIT philosophy assumes that people are capable and willing to take on more responsibility. If defective parts are being produced, an individual can stop the production line. Once stopped,

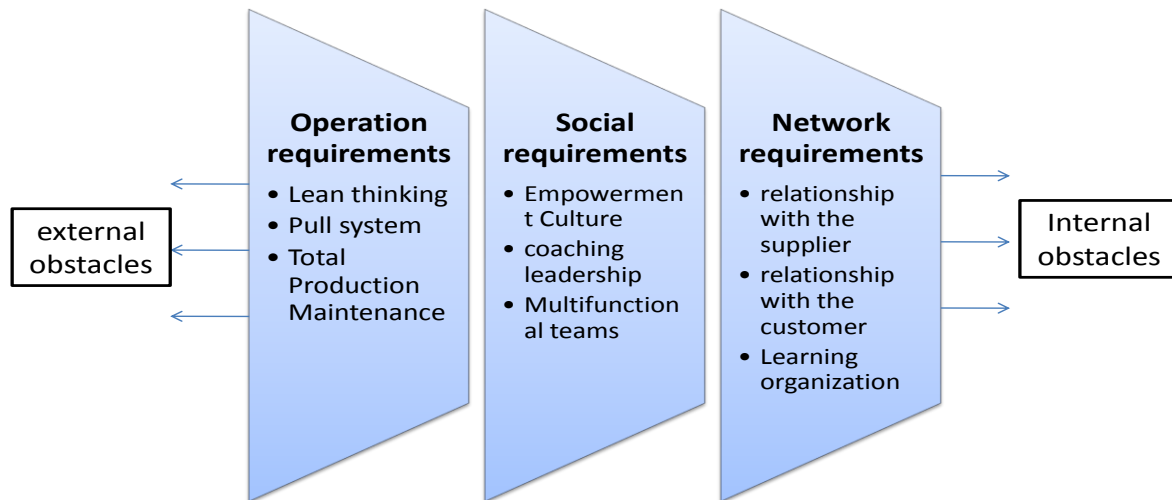
everyone working on the line has the responsibility to solve the problem. (Panchal, 2013)

Many studies tried to apply the (JIT) system but their experiments failed when the tools were applied and the essence and philosophy of this system were ignored. To achieve the ambition of building the lean organization requires the organization to absorb the essence of the philosophy, dimensions and identify the frameworks used to build the lean organization. Dominici and Palumbo (2013) argued that the reason for the low level of success of lean production outside its native country is the lack of understanding of the strong interactions which hold between enterprises and business systems.

THE MODEL OF STUDY

To answer the questions of study the author building model “requirements to implement (JIT) system” As shown below

Requirements & obstacles of using (JIT) system



The requirements to implement (JIT) system as they point out of the model

Operations requirements:-

JIT in production/operations systems normally has to precede JIT in supply chain, in

order to help to convince suppliers of the customer organization's commitment to improving quality and eliminating waste (so called quality on source), and in order to

maximize the benefits derived from reductions in materials' inventories and the shipments should meet the requirements of Master Production Schedule (MPS). One of the criteria most commonly cited for the successful implementation of JIT is the support of the workforce, including management. Employees should be encouraged to uncover problems in order to allow actions to be prioritized and initiated by addressing the root causes, and implementing preventative measures, which may well involve cross-functional Quality Improvement Teams (QITs) and/ or Corrective Action Teams (CATs).

Just-in-Time is a component of time management, operating to meet market demand quickly; it thus is applicable to goods in-bound to plants in all sorts of industries as well as to goods out-bound. Adoption of a JIT focus on "Time" is no less important for new product development, where "time-to-market", timorousness and "being first" have long been recognized as critical elements in corporate success. Moreover, implementation of JIT strategies calls for major changes in areas of corporate operations beyond, such as cost accounting (Tatikonda 1988) and information systems (Malley and Ruthann 1988)

As the model of this study operations requirements include: lean thinking, pull system and Total production maintenance

As Gottesman (1991) noted, the three major objectives of JIT are to eliminate waste wherever it occurs, to add value at every step of the value chain, and to move material directly to where it is needed. Accordingly, crucial objective of JIT is, therefore, to attack obstacles to improving quality and efficiency. The variety of innovative products being manufactured, coupled with shortening product life cycles, means that operation processes have to be flexible, responding quickly to immediate market needs, and have to be geared to the likelihood of future continuous change.

That is, lean system refers to systematically identifying and eliminating waste through continuous improvement using the pull production with a view to get perfection (Farhana, et al, 2010)

The pull system of production is where the materials are pulled by next level of the production only when is signaled or required by

the next stage of production. This dramatically reduces the inventory held as it does not keep any work in progress. JIT concept is built based on the concept of pull production which eliminates the total inventory. Kootanace, et al(2013)

The total Maintenance production plays a significant role in reducing waste , increasing productivity , achieving the organization's profit (Fatemeh And Yusof, 2011) , reducing the expenses of the maintenance's contracts , reducing the depleting energy in the production process, and increasing the efficiency of the used assets. (James, 2010) highlighted four methodologies of the total maintenance production; The Preventive Maintenance, Corrective Maintenance, Eliminating Maintenance and Emergency Maintenance. though the success of the maintenance operations is linked to a range of factors, including: the commitment of the organization, and the participation of the workers ,the learning and training of workers, the supportive organizational structure, building the working team, and the quick response. This requires lean-oriented thinking and a change in the culture of the organization and the structures to work according to the principles of the (JIT) system.

Social requirements:-

Kosuge (2014) viewed the Socio-technical system (STS) an organization or a work unit is a combination of social and technological parts, with the purpose of joint optimization of quality of working life and technological performance.

He suggests that high performance is exhibited by a hybrid production system consisting of elements of both STS and lean. Moreover, the movement to implement lean while taking advantage of the tradition of STS has been echoing the perspective that lean should be implemented in a form that fits each organization's context. The main implication of the integration is that management style based on socio-technical practices can fit well with problem solving that accompanies the improvement of flow. Although STS principles do not emphasize flow creation, they can be adapted to focus on systematic problem solving, particularly in the form of reflection by autonomous teams.

As the model of this study social requirements include: empowerment culture, coaching leadership and multifunctional teams.

Hines (2010) notes that require a commitment everywhere in the organization to improve and to eliminate those obstacles that delay prevent or inhibit improvements. Also, he indicated that lean behaviors include trust, honesty, openness, consistency, respect, reflection, observation, objectivity and listening play a great role in implementing the JIT approach in HRM. Wasteful behaviors include blame, ego, distrust, cynicism, sarcasm, ambiguity, subjectivity, insincerity, self-imposed barriers and negativity.

Just –In – Time (JIT) cannot work without the existence of efficient of team work Toyota demonstrates this respect by providing employment security and seeking to engage team members through active participation in improving their jobs.

As managers, we must take the responsibility for developing and nurturing mutual trust and understanding among all team members. I believe management has no more critical role than to motivate and engage large numbers of people to work together toward a common goal.

Hines (2010) notes that it is management and leaders' responsibilities to ensure that the organization takes actions on all employees' ideas and suggestions for improvement, and that good idea for improvement are acted on quickly so that wastes can be eliminated and improvements generated.

Without developing any real depth or loyalty from the employees. The problem with an outsider leading radical shifts in the culture is that the organization will never learn it loses the ability to build on achievements, mistakes, or enduring principles. This affects the ability of leaders to make effective changes.

Building (JIT) system requires rearrange the organization's structure map , forming the work cells ,focusing on completing the tasks , and developing of multi-functional work teams. (William, 2001) describes those teams as they are independent and accountable for the results of the work. On the other hand, work teams as (JIT) system has the following characteristics a good adaptation speed and an effective communication skill between its members with the ability to exchange work sites among them ,they also characterize as individuals who

enjoy different skills and able to share their knowledge among each other . (Forza, 1996)

Some Japanese manufacturers two decades ago have set up multi-functional new product development teams, including members from product design, production engineering and marketing, making a car designed not only for the marketplace, but also for manufacturability (Forrester, 1995). The key to the Toyota Way and what makes Toyota stand out is not any of the individual elements.... But what is important is having all the elements together as a system. It must be practiced every day in a very consistent manner not in spurts. (Likers, 2004)

Network requirements:-

As the model of this study network requirements include: the relationship with supplier, relationship with customer and learning organization.

Just-in-Time has a dominant influence on the supply chain function because of its long-term focus on continuous improvements, enhanced quality and the elimination of waste.

For JIT sourcing to work, the suppliers and buyers must have compatible goals and objectives with respect to the product. On the one hand, the supplier must be willing to make frequent deliveries of high quality products in small lot sizes on time. On the other hand, the buyer must be willing to give the supplier long-term high volume contracts to make it worthwhile and develop a closer buyer-supplier relationship, which, for the JIT system to function properly, "must be extremely tight, both behaviourally and logistically*" (O'Neal 1987).

For JIT sourcing to work, the suppliers and purchasers must have compatible goals and objectives with respect to the product. On the one hand, the supplier must be willing to make frequent deliveries of high quality products in small lot sizes on time. On the other hand, the buyer must be willing to give the supplier long-term high volume contracts to make it worthwhile and develop a closer buyer-supplier relationship, which, for the JIT system to function properly, "must be extremely tight, both behaviorally and logistically. (Bernard, 1996)

It is essential to research market requirements to carry the "voice of the customer" backwards through the organization and into the fundamental product design.

O'Neal (1987) identified several procedures which help to maximize the design's value in the customer's eyes while maintaining

quality, efficiency and flexibility. These are commonly regarded as being fundamentally "production" activities, but their justification lies in their contribution to the provision of customer satisfaction.

There are, thus, four common threads linking the three JIT functions: the level of quality required; the provision of maximum customer satisfaction; reduction and/or optimization of costs to all parties and effective development and introduction of new products essential to maintain a competitive edge.

Just-in-time production helps by reducing work-in-progress inventories to facilitate flexibility in manufacturing;

Procurement by reducing purchased inventories to further facilitate flexibility and production efficiency; and Marketing by gathering together all the necessary employees and activities at the right times to ensure efficiency and flexibility are maintained from idea generation to product delivery. (Bernard, 1996)

It is a must to have the learning organization as an essential part of the foundations of (JIT) system. since the learning organization works to explore the knowledge and then invested in achieving the objectives of the (JIT) system, as well as working on developing the strategies for staff continuous learning. In addition to Learning from the customer and suppliers, and save knowledge and share it to provide solutions to the problems at work.

Bradley and David (2011) maintain that, they can be made lean on knowledge jobs if organizations draw on six principles: continually root out all waste, strive to make tacit knowledge explicit, specify how workers should communicate, using the scientific method to solve problems quickly, recognize that a lean system is a work in progress, and have leaders blaze the trail. (JIT) system is generally accompanied by a shift towards the exposure and solving of problems, both at the incremental improvements level for existing systems and processes, and to generate new methods and systems. This transition calls for a new approach in problem solving, putting the burden on teams and requiring the careful management of controversy and conflict in a way which does not affect ideas generation. Research into how to improve both the outcomes and the process of ideas management in teams is currently limited. (Forrester, 1995)

METHODOLOGY OF THE STUDY

-The Type and Nature of the Study:

This paper is a type of exploratory qualitative study because it aims to identify and recognize the reality of applying the Just- In- Time (JIT) system in Al- Hikma pharmaceutical company, and identify the availability of the necessary elements for applying the JIT system in Al-Hikma pharmaceutical company; and identify the problems facing the application of the JIT system in Al-Hikma pharmaceutical company.

Sample and Data Collection Methods:-

-Population and the Sample of the Study:

The population consists of Al- Hikma pharmaceutical company members In Jordan; the sample will contain people from different positions and titles in the administration and jobs levels in. The study sample is considered as an appropriate deliberate sample.

-Methods of Data Collection:

The study are using two basic sources to collect data and information, namely: 1.Secondary sources and represented in foreign books and references and the relevant articles and researches on the topic.2.Primary sources where the data has been gathered through meticulous interviews with the managers at all levels in the Al- Hikma company - attachment (1) text of the interviews. The study tool used to conduct the in-depth interviews was by only asking the pre-defined questions .The questions were open-ended questions which allow free expression and orientations. The questions have been asked in a way that line up with the requirements of the answer to the proposed model that addresses the possible factors for implement (JIT). In this study, there has been twenty-four interview coordinated and conducted with managers in all level In Al- Hikma Company For the manufacture of drugs.

The Validity and reliability study:

To ensure the Validity of the analysis there has been done several procedures, namely: A. Displaying the interview questions and the methods used in the analysis of the results to a group of arbitrators to make sure that the questions are appropriate with the objectives of the study then amend the them in accordance with the observations of the arbitrators.

B. Relying on documentation and notes taking and recording interviews after having participants' permission and knowledge of such data. The use of the absolute terminology, which do not allow more than one meaning to explain the question to avoid confusion in the understanding of wording of questions.

C. getting familiar with the participants during the interviews and taking notes during interviews to support the information collected in the interviews.

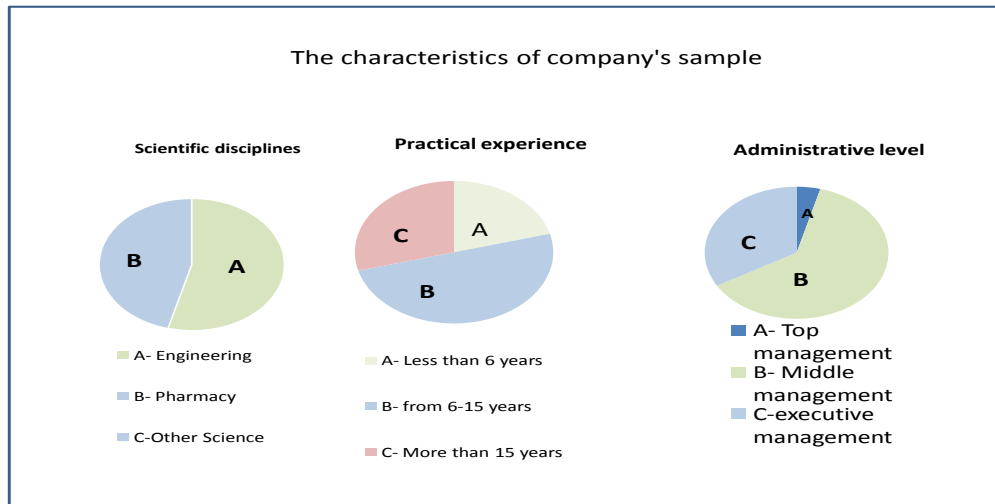
The Methods used to Analyze: The qualitative method has been used to analyze the interviews as follows: transforming and classifying the data collected in the interviews according to the proposed general framework of the study and its main themes. Then the answer has been giving a weight .Next the demographic characteristics of the participants have been transformed, coded and classified in accordance with: the administrative level, and practical experience, and scientific specialization. Was used the frequencies inductive analysis and descriptive statistics to calculate the frequency and percentages to sort and recognize the results.

THE APPLICATION OF STUDY

About the Al- Hikma pharmaceutical company: Al- Hikma the public joint stock company was founded in 1978 in Jordan. It is a group of multi-nationals pharmaceutical companies where a steady grow has been accomplished .The company's focus is on developing and manufacturing various pharmaceutical products. The company access the market world through ongoing three major sectors: Trade Marks tenuously production and injections, and other medicine. Al-Hikma

pharmaceutical company has competed in the international market by intensive work to produce high qualities pharmaceutical products that is up to the level of the international standers. This company was registered in London Financial Market In the year 2005, in Nasdaq Financial Market in Dubai In the year 2006. Al-Hikma Company also owns 27 modern pharmacological factories in accordance with the international standers for 11 countries. Most products hold a license From the Food and Drug Administration of America .and / or the British agency of Regulation of medicines and Health Care products .The company has achieved total of (1108.7) million dollars revenue in the year 2012. And a total number of \$6, 500 employees in the year 2012. The 1600 or more team of marketing representatives has helped the Al-hikma company to build a strong relation with the doctors, hospitals, pharmacies and buying groups for hospitals In Markets in the Middle East and North Africa. (Jordan Kuwait Bank, 2012)

Analysis of the results: we've conducted twenty-four interviews with managers in the company; the meetings were with the deputy Director General of the company, and fifteen other directors of middle management, and eight directors of executive management. The participant's range of experiences was from one year to thirty years. The case sample specialties confined in engineering sciences and pharmacy sciences. Interviews have been conducted over several days and in different sites of the company. As the figure below show



The study shows that the company has the principles and serious practices of the concept of the (JIT) system In spite of the existence of good practices of the dimensions of (JIT) system-and

after observing the answers of the participants - It turned out that it was all individuals attempts to develop the lean system through the use of the tools and techniques of the (JIT) system.

The table below summary the result

		I do not know anything		I have an idea, but is not implemented		There is an initial practices		There are good practices		Apply it exactly	
dimensions	Total of questions	Repetition	Ratio	Repetition	Ratio	Repetition	Ratio	Repetition	Ratio	Repetition	Ratio
Just In Time (JIT) system	9	1	0.11	6	0.67	2	0.22	-	-	-	-
Pull system	27	2	0.07	6	0.22	11	0.41	7	0.26	1	0.04
Lean Thinking	9	-	-	1	0.11	3	0.27	2	0.18	3	0.27
Total Production Maintenance	19	-	-	1	0.05	4	0.21	7	0.37	7	0.37
Empowerment Culture	31	1	0.03	-	-	2	0.06	7	0.23	21	0.68
coached leadership	7	-	-	-	-	2	0.28	1	0.14	4	0.57
Multifunctional teams	16	1	0.06	2	0.12	5	0.31	5	0.31	3	0.19
The dynamic of Supply chain	17	1	0.06	1	0.06	10	0.59	3	0.18	2	0.12
The voice of the customer	10	-	-	3	0.30	6	0.60	1	0.10	-	-
Learning organization	17	-	-	1	0.06	7	0.41	9	0.53	-	-

CONCLUSION

These initiatives did not stand up to the philosophy of the (JIT) system to build and develop such company, and it was not supported

by the different departments and sections at work.

So, the study cannot underestimate the prominent role of such initiatives to develop the tools of the (JIT) system at Al-Hikma

pharmaceutical company, the efforts to conduct competitions, and create ideas. It was also clear the adoption of the philosophy of the (JIT) system, and the desire to improve their performance through learning. The organization urges workers to read and learn what is new, encourages initiatives and suggestions to improve work. Bottom line the study indicates to the role of knowledge in having the good, and the initial practices of the lean system in the company.

It is clear that the company has attempts to apply the (JIT) system tools without prior work on the infrastructure and on the applying the philosophy and the objectives of the lean system. The ways to transform to the (JIT) System need to apply all aspects of the it starting from changing the terminology, strategies, technologies, philosophy and values.

Its need to pay attention to requirements such as: operation requirements; social requirements and network requirements in organization.

- Operation requirements include: pull system, lean thinking and Total production maintenance
- Social requirements include: empowerment culture, coaching leadership and multifunctional teams.
- Network requirements include: the relationship with supplier, relationship with customer and learning organization.

There are internal and external obstacles of application (JIT) system in Al-Hikma Pharmaceuticals Company; internal obstacles as: Lack of awareness of management and workers on how to apply this system; lack of knowledge to the concept of Just- In- Time (JIT) system and its benefits, in addition to the poor application and adoption of such system in that company. Lack of infrastructure necessary to implement the system; the type of manufacturing process that use in production, use push system in manufacturing, Cost of implementing this system outweighs the expected benefits of its application; lack of integrated cooperation between the functions in company to success of application of this system. On another hand there are external obstacles of application (JIT) system in company as Absence of a competitive market for the application; the challenges of political and economic conditions; Constraints of government legislation and regulations; Complex environment and rapidly changing and Lack of integrated cooperation between suppliers and Management

RECOMMENDATIONS

1. The Jordanian Pharmaceuticals companies' must access the experiences of successful international companies that have implemented this system to see the relative importance of the application of the JIT system in comparison with the costs of the application process.
2. The Jordanian Pharmaceuticals companies should pay attention to requirements such as: operation requirements; social requirements and network requirements in organization.
3. The Jordanian Pharmaceuticals companies should pay attention to application pull system in manufacturing
4. The Jordanian Pharmaceuticals companies should pay attention to adopt lean thinking and learning organization.
5. The Jordanian Pharmaceuticals companies should contract with suppliers who can provide raw materials in time.
6. The Jordanian Pharmaceuticals companies should pay attention to training the workers on how to apply this system and attract experience in this system.
7. The Jordanian Pharmaceuticals companies should pay attention to adopt learning organization; training and educational courses for workers about the JIT system.
8. Jordanian Pharmaceuticals companies must try to find solutions to the obstacles facing the application of this system.
9. Jordanian Pharmaceuticals companies should pay attention to application (JIT) system in all functions and units of organization, its ability to reduce waste and spoilage, reduce inventory, lower production costs, maintain quality, and make continuous improvement, as their impact increases profitability and strengthens competition.

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