

Case study on Just in Time for Service Industries

Aniket Akhade¹, Mukund Kavekar², Kamlesh Bachkar³

Assistant Professor

Department of Mechanical Engineering

VCET, Vasai, Mumbai

Corresponding Authors' email id: aniket.akhade@vcet.edu.in

Abstract

Services are much like manufacturing. Therefore, successful implementation of JIT is vital to manufacturing as well as service industries. JIT focuses on the process, not on product. Therefore it can be applied to every process within manufacturing or service industry. The main objective of this research is to make use of a case study to present various issues regarding implementation of JIT for a service industry. This case study also shows the benefits of reduction in waiting period by employing JIT. The conclusion of this research indicates that JIT system is successful and operating JIT system leads to many advantages to the case industry.

Keywords: *Just-In-Time JIT, Service Industries, Service industry*

I. INTRODUCTION

JIT systems have tremendous effect on all operations of a firm, including design, accounting, finance, marketing, distribution. Just-In-Time (JIT), the popular process of waste reduction and has been a very popular working strategy because of its success in the manufacturing and production industry over many years. Various benefits like, improved operational efficiency, waste reduction,

and faster response have been widely observed by previous researchers. Services are much like manufacturing. Therefore, successful implementation of JIT is vital to manufacturing as well as service industries. JIT focuses on the process, not on product. Therefore it can be applied to every process within manufacturing or service industry.

The conclusion of this research indicates that JIT system is successful and operating JIT system leads to many advantages to the case industry.

2. OBJECTIVES OF JIT

JIT tries to smooth the flow of materials from the suppliers to the customers, thereby increasing the speed of the operating process. The objectives of JIT are to change the working system gradually rather than drastically.

- To focus on continuous improvement with less scrap.
- To achieve „zero defects“ goal in manufacturing with quality.
- To Increase productivity and worker efficiency with less idle time.
- To achieve flexibility and administrative efficiency.
- To reduce product cost by reducing space requirement.
- To eliminate wastage in transportation, process, inventory, production etc.

- To be more responsive to customers with increased competitive position.
- To improve profit margin with shorter lead time.

2.1 Basics of JIT

The basic aim behind the JIT is waste elimination. Waste is defined as everything that does not add value to the end product from the user's perspective. The basic objective to make the working hub more efficient. JIT is to provide only what is needed by customer, when it is needed and in the quantities ordered. The service is done in a way that minimizes the time taken to deliver the service goods, the man-power required, the work-space required, and it is done with the highest quality, and usually at the lowest cost. To remain alive in the fast growing global market, JIT discipline has to work in each aspect for waste reduction in order to optimize the cost.

It is found that reduction in the inventory causes reduction in the sources of waste.

3. BACKGROUND OF THE CASE AND RESEARCH METHOD

Waiting and queuing problems are most common features not only in daily-life

situations such as at a restaurant, public transportation, bank or postal office, seaport, healthcare, call center but also in more technical environments such as in production or networking. It shows that waiting time can be reduced by keen services for both short and long-term projects to improve customer satisfaction.

3.1 Need of Research

- People are cautious about their time, waits seem more wasteful than ever.
- Long waiting time in any servicing station is considered as an indicator of poor quality and needs improvement.
- If the waiting time or service time is found more customers may leave the queue prematurely thus resulting in loss of service provider.
- The issue is not about the actual time people have to wait but what they perceive how much more time? This results in emphasizing of the issue.
- The waiting time is not enjoyable.

4. METHODOLOGY

If the service organizations apply JIT techniques to reduce non-value added activities, they will have more time to focus on value added activities, which will improve service to their customers and provide better operating environment for the organization.

Especially in service industry it's all about managing human resources. These are some techniques-

4.1 Flexible workforce

It basically means in some urgent scenarios if needed workforce should cooperate by extending working time. Flexible workforce is created through education and training, along with the establishment of clear policies for its implementation.

4.2 Zero deviation in the production program

IT programs are important to monitor the work plans generated, since deviations could cause delays in other production orders. A strong care should be taken by authority that plan remains unchanged.

4.3 Multifunctional workers

This element refers to the availability of workers or people responsible for the

production process to perform various activities in the production line. Hence, if any member were missing or stopped attending, any other worker could replace him/her in the position or job. Instead of his absence working cycle will continue.

4.4 Workers motivation

It is also one of the most important associated with human resources. Humans are not machines they need some mental push to overcome emotional and other factors. Although it is difficult to actually measure the motivation of employees or operators online, JIT considers that this element is crucial. The best way to do is taking monthly seminar from motivational speaker, creating sense of pride for doing work etc.

4.5 Error prevention

JIT is a long commitment process so care should be taken each and every day for single error. For ex. Constant training like for the pilots in simulator.

4.6 Self-correction

This concerns the ability of workers to correct their mistakes without the need of supervisors. It is related to the degree of authority that supervisors grant to their employees, since if there were no authority, there would not be responsibility

either. This would be possible that worker himself have education and should be able to solve it. If he do know but in absence of authority to solve, every time supervisor has to take decision or some other appointed person ultimately resulting in slowing down the process.

5. PARAMETER MEASURED FOR BANK-

- Production (working) process
- Reduction of cost if possible
- Time spent in waiting
- Identifying wastes
- Commitment of management

5.1 Waste identified-

- Waste of waiting
- Waste of movement
- Waste of inventory
- Waste of process

5.2 Solutions derived-

A. Waste of waiting

- Online registry to take appointment to avoid long queues
- Token machine installation will help to segregate the customers to different desks.
- Each customer will know exact when he has to be there so his time will be saved resulting in high quality service.

This process will require some serious changes in the working structure and high investment will be needed. The actual effects of the system will not be seen in short term, as it is merely Quality assurance project but it will increase the efficiency, quality and importantly its competitiveness in the sector.

B. Waste of movement

- As told earlier to create multifunctional workforce so more work at same desk rather than follow up of cycle.
- At home services through online portal.

The paper trail is usually more in financial institutions which affects the image of particular bank. Workforce also suffers due to such problems. Multifunctional workforce may require more than usual training but there will be no breakdown of system in the absence of particular employee. The home services can be availed for high end clients, as multifunctional employee has more training he can handle these things on his own.

C. Waste of inventory

- Promotion to online banking

- Passbook machines near ATM machines.

Ex. Bank pays 10,000 rupees to one employee just to print the passbook. Considering he will give service for 30 years, bank is spending 30 lakhs on him instead if banks buys automatic passbook printer of 10 lakhs, they surely saved a lot of money as well as human resource.

D. Waste of process

The traditional paper route replaced by direct online working resulting reducing waste of office stationary.

This process is based on Continuous improvement, through the time it should evolve internally as per needs and requirements.

CONCLUSION-

All this is not possible until there is a commitment from the higher authority and also the supports from the labors is also needed for its complete implementation. This process is completely possible and can be implemented successfully.

This process emphasizes on removal of wastage in form of capital, time and human resources. The whole system has to be up to date and even smaller wrong

changes will affect the whole system in long term. Close checkup of how system is implemented is also mandatory.

REFERENCES

- I.** Just in Time Manufacturing: Introduction and Major Components, Alejandro A. Loreface New York – April 1998, Servicioy Tecnologia S.A.
- II.** Mehra, S., Inman, R.A., 1992. Determining the critical elements of Just -in-Time implementation. *Decision Sciences* 23 (1), 160 – 174.
- III.** V.D. Wakchaure, Dr. M.A. Venkatesh & Dr. S.P. Kallurkar, 2006 , “Review of JIT Practices in Indian Manufacturing Industries” , *IEEE International Conference on Management of Innovation and Technology* , pp : 1099-1103.
- IV.** Vikas Kumar (2010), “JIT Based Quality Management: Concepts and Implications in Indian Context”, *International Journal of Engineering Science and Technology*, Vol. 2 Iss: 1 pp. 40-50.
- V.** Daniel I . Prajogo, Christopher M. McDermott, (2008), "The relationships between operations strategies and operations activities in service context", *International Journal of Service Industry Management*, Vol. 19 Iss: 4 pp. 506 –520.
- VI.** Christine M. Wright and George Mechling (2002), “The importance of operations management problems in Service Organizations”, *The International Journal of Management Science*, Vol. 30 pp 77-87.
- VII.** Leslie K. Duclos, Samia M. Sih and Rhonda R. Lummu s (1995), “JIT in Services: A review of current practices and future directions for research”, Vol. 6 Iss: 5 pp 36-52.
- VIII.** Carmen, J.M. and Langeard, E. (1980), “Growth strategies for service firms”, *Strategic Management Journal*, No. 1, January-March, pp. 7-22.