International Social Sciences and Humanities
UMJember Proceeding Series (2024) Vol. 3 No 3 : 696-701

Proceedings of the ICON2 2024
International Conference

EVALUATION OF SERVICE SYSTEM IMPLEMENTATION JUST IN TIME MOTORCYCLE AT JEMBER "MOTOR FANS" WORKSHOP

Three Irama Safnidar Sibromulis, Feti Fatimah and Seno Sumowo
[1]Muhammadiyah University of Jember; 3iramass@gmail.com
[2]Muhammadiyah University of Jember; Fetifatimah@unmuhjember.ac.id
[3]Muhammadiyah University of Jember; Seno@unmuhjember.ac.id

*Correspondence: Three Irama Safnidar
Email: 3iramass@gmail.com

Published: September, 2024

Abstract: This research aims to evaluate the extent to which the Just in Time (JIT) motorbike service system has been successfully implemented at the Jember Motor Fans Workshop, as well as identifying potential benefits and challenges faced. A descriptive qualitative approach was used with interviews and direct observation, analyzed using framework analysis and textual analysis to provide in-depth insight into the implementation of JIT in the workshop. Research shows that the implementation of the Just in Time (JIT) system at the Motor Fan Workshop is effective, with an input of 74.16 and an output of 70.58, indicating above-average effectiveness. A simple service process enables fast and precise repairs, supported by adequate spare parts availability and a controlled stock system. Although the principles of JIT are not yet fully understood, the workshop owner's guidance has increased operational efficiency and reduced repair wait times. Implementing strict quality standards, advanced inspection equipment, and regular training of technicians improves work precision and service quality, thereby increasing customer satisfaction and loyalty. The workshop also offers high-quality products according to customer preferences and budgets and provides professional advice to help make the right decisions. Regular evaluation of customer satisfaction and product re-checking are carried out to minimize defects and ensure reliable repair services and trusted relationships with customers.

Keywords: Operational Management, Just in Time, Motorcycle Workshop Service

INTRODUCTION

The automotive industry, one of which is motor vehicles, has an essential role in supporting community mobility. According to the Indonesian Motorcycle Industry Association (AISI) report, domestic motorbike sales in November 2023 reached 571,983 units, up 10.78% compared to October 2023. Cumulatively, domestic motorbike sales in January-November 2023 reached 5,809,959 units, up 22.61% compared to January-November 2022 (Annur, 2023). Along with the growth in motorized vehicles, demand for motorbike service services is also increasing. Various types of business in the automotive industry are also increasing. One of the competitions that occurs is workshop service. One of the company's efforts to maintain the market is to improve service quality. (Feti Fatimah, 2022) states that physical evidence, reliability, responsiveness, assurance, and high empathy will increase customer satisfaction. However, improving service quality must balance effective and efficient workshop operations. To meet this demand, motorbike service workshops must adopt more modern methods. An advanced manufacturing system, including the Just in Time system, is

needed to improve product quality and production cost efficiency (Willem, 2018). The accuracy of the method taken by the company in handling inventory will benefit the company (Widjojo, et al. 2022).

Just in Time (JIT) is an operations management approach that promises to revolutionize the efficiency of production or service processes by minimizing the waste of Time, materials, and labor. JIT is a management approach that strives to eliminate waste in the supply chain and maximize the use of resources (Istiqomah, et al. 2023). It's a way to manage inventory and production on Time (Oktaviani, et al. 2022). JIT adopts the concept where the raw materials used for production activities are imported from suppliers precisely at the time the materials are needed by the production department, thereby saving or even eliminating inventory costs and the cost of storing goods in the warehouse (Apriyanti, et al. 2021). JIT is designed to deliver superior quality, reduce costs, and achieve the most efficient Time and costs possible by eliminating waste (Janson B & Nurcaya, 2019). One of the significant impacts of JIT on company sustainability is its influence on the company's economy, both reducing losses and increasing company profits (Heitasari & Effendi, 2023). This system, initially developed for the manufacturing industry, has been successfully applied in various contexts, including motor vehicle servicing. Workshops that implement JIT strive to provide motor vehicle maintenance services on Time, avoid excessive stock, and maintain service quality. Almost all official motorbike workshops have adopted the JIT system, but this is different from the types with the characteristics of variation workshops, daily workshops, custom workshops, and bore-up workshops, where several workshops outside official workshops still do not fully implement JIT. The application of JIT in workshops includes repair production, storage, delivery, quality control, and mechanical resources.

An in-depth understanding of the Just in Time Motorcycle Service System Implementation Evaluation at this workshop will provide insight into the potential benefits and challenges involved in implementing JIT in the motorbike service industry. It is hoped that this research can significantly contribute to improving the quality of workshop services, minimizing waste, and most importantly, increasing customer satisfaction in an increasingly competitive context. The potential for enhanced customer satisfaction is a promising outcome of this research.

Fans Motor Jember Workshop has adopted a Just in Time (JIT) motorbike service system to increase efficiency. While JIT offers significant potential benefits, its effectiveness in Motorcycle Fan Workshops is not yet fully known. Therefore, there is a pressing need for research that focuses on evaluating the implementation of Just in Time. This research aims to evaluate the extent to which the Just in Time (JIT) motorbike service system has been successfully implemented at the Jember Motor Fans Workshop, as well as identifying potential benefits and challenges faced. By conducting this research, we aim to contribute to the improvement of the motorbike service industry by enhancing service quality, minimizing waste, and increasing customer satisfaction.

METHOD

This research will use a qualitative descriptive approach to gain an in-depth understanding of the implementation of the Just in Time (JIT) service system in motorbike workshops where the object used in this research is the operation of the Jember "Fans Motor" motorcycle repair shop. The researcher chose three informants to help collect data and relate to the problem to be studied. The informants selected were business owners and workshop managers as the primary decision-makers, chief mechanics as operational process supervisors, and mechanics as worker representatives. Data collection techniques are conducted through field research using interviews to collect the intended information regarding a general description of the company's development and operations, observation to observe directly, and careful and systematic recording of the company's overall condition to be more realistic. Description of the problem to be studied.

Moreover, documentation to obtain research supporting data. The existing data results are then analyzed using an analytical framework. The framework used is the JIT Effectiveness Assessment Method. This framework consists of 78 question points divided into five categories which help spread JIT effectiveness. This will provide an idea of the extent to which the Just in Time system is implemented in Motorcycle Enthusiast Workshops. Based on research by (Kazazi, 1994) monitoring procedures that can be used to measure the effectiveness of Just in Time can be divided into five categories as follows:

No	Category	Monitoring Point
1	Manufacturing technical system requirements	27
2	Supplier Relationship	11
3	Huma resources	10
4	Quality and Reliability	12
5	Appraisal and Evaluation of benefits of implementation	17

Categories 1 to 4 are input for JIT implementation, while category 5 is output related to the effectiveness of implementing elements 1-4. Each category will be created on a Linkert scale of 1 to 4, which means 1= No (no elements were carried out), 2=some elements were carried out, 3=Most of the elements were carried out, and 4= yes (All elements were carried out)
The list of monitoring points for each category is as follows:

Score calculation:

$$\text{Input score} = \frac{\text{(Summation of all scores area 1-4)}}{(240\text{x}100)}$$

$$\text{Output Score} = \frac{\text{(summation area 5)}}{(68\text{x}100)}$$

The results of the score calculation can be interpreted with recommendations for assessment as far above average if the value is 75-100, above average if the value is 50-75, below average if the value is 25-50, Insufficient input if the value is 0- 25.

The results of the framework analysis were then continued by textual analysis to provide in-depth insight so that we could answer the potential and challenges experienced in implementing Just in Time at the Motor Fan Workshop. Apart from that, textual analysis was also carried out to provide in-depth insight into the implementation of JIT in the workshop.

RESULTS AND DISCUSSION

The implementation of the Just in Time service system at the Fans Motor Workshop has an effectiveness value above average; this is obtained from the results of the framework analysis, which shows JIT input results of 74.16 and JIT output results of 70.58. The comparison between the input of Just-in-time activities carried out by Motor Fans is still 5.11% higher compared to the evaluation of the results of the output impact of implementing Just-in-time

The Production/Repair service flow at Fans Motor is simple, so the process is fast and precise. Apart from that, motor fans provide complete daily spare parts and various alternative spare parts. To avoid excessive stock, spare part stock purchases are made based on vehicle damage data and sales reports. The stock

amount is recorded and monitored on the computer system. If the stock starts to run low, the business owner will restock, but the arrival of restocked goods cannot usually be predicted.

The relationship between Motorcycle Fans and Suppliers is well-scheduled. However, the availability of goods at suppliers sometimes needs to meet the demands of motorbike fans. We will restock spare parts selling well, and items not selling well are usually given free.

The owner of the Fans Motor Workshop has directed employees to implement JIT principles even though they still do not fully understand them. Nonetheless, these efforts have shown positive results, such as increased operational efficiency and reduced waiting times for vehicle repairs. The better their performance and development, the more likely their salary will be increased. This is expected to motivate employees to continue to increase their productivity and quality of work. Apart from that, this salary increase award is also a form of appreciation from the company for the dedication and hard work shown by the employees. It is recommended that motivational or training sessions be held to increase employee morale. This program can include technical training related to vehicle repair and maintenance and the development of soft skills such as effective communication and customer service. Training can also focus on increasing efficiency and implementing Just in Time (JIT) principles that have been adopted by workshops so that employees can work more quickly and efficiently. Apart from improving skills, these sessions will also strengthen employee relationships and teamwork culture. Through this approach, Fans Motor Workshop employees will feel more appreciated, motivated, and ready to provide the best service to customers, ultimately improving the overall reputation and performance of the workshop.

Fans Motor Workshop offers high-quality products; some consumers prefer standard-quality products. All decisions regarding product quality are returned to each customer. This approach allows repair shops to serve various customer needs and preferences, increasing customer satisfaction and loyalty. Customers feel more valued by being provided choices and being able to tailor services to their specific budget and needs. In addition, the workshop team is always ready to provide professional advice on the advantages and disadvantages of each option, helping customers make better decisions. In this way, Fans Motor provides reliable vehicle repair services and builds closer and more trusted relationships with its customers, ensuring that they will return for service in the future. Carrying out regular evaluations to assess customer satisfaction is essential in ensuring that the services provided always meet or exceed expectations. It is necessary to recheck goods in order to minimize the occurrence of defects in goods. This checking process must be carried out thoroughly and systematically, involving various inspection stages, from receiving raw materials during the production process to the final product before being handed over to the customer. Workshops can identify and repair potential defects early by implementing strict quality standards and using state-of-the-art inspection equipment. In addition, regular training for technicians and staff on the latest quality procedures is also essential to ensure all employees understand the importance of quality control and can carry out their duties with precision.

While using Just in Time, Motorcycle Fan workshops feel more productive. Fans Motor workshop owners are committed to continuing to develop and improve the quality of workshop services, focusing on implementing the latest technology and innovation in the automotive industry. In this way, they strengthen the position of the Fans Motor workshop as a trusted and superior automotive service provider in the future. For Motorcycle Fan Workshop, maintaining service quality is the main priority. This workshop always strives to provide the best service to customers through various strategies. First, they ensure that the technicians working are professionals who are trained and experienced in their field. Second, this workshop uses high-quality equipment and spare parts for every vehicle repair and maintenance. Third, they apply strict op-

erational standards to ensure every job is carried out carefully and thoroughly. In addition, Bengkel Fans Motor is also committed to listening to and responding to customer feedback as part of ongoing efforts to improve services. With this approach, they hope to build a reputation as a reliable repair shop. So far, storage at the Motor Fans Workshop has been refined; the storage warehouse still has plenty of space available. An efficient inventory management system ensures that all spare parts and equipment are well stored and easily accessible when needed.

The evaluation results of implementing Just in Time at Motor Fan Workshops have several potential benefits and challenges for developing Motor Fan workshops. Some potential benefits of the Fans Motorcycle workshop are the simple service and repair flow, the fast and precise process, the suitable layout of tools and placement according to needs, making it easier for mechanics to carry out work, and the fact that they already have good SOPs. It is essential to ensure consistent and quality service to customers. Stock movements and transportation are carried out efficiently, accurately, and safely. It helps reduce errors, loss of goods, and damage during the movement process, as well as ensure proper recording and reporting. The daily availability of complete spare parts and various choices are carried out well so that repair production can be aligned with customer needs and stock availability can be achieved. Fulfilled without excess stock: The amount of stock is recorded and monitored on the computer system. Planning to purchase stock can be done when it starts to run low, and it is also helpful for limiting the purchase of excess goods. Scheduled stock procurement so that it is easy to monitor supplier arrivals, Inspection of the production/repair process carried out sufficiently to reduce the number of complaints from consumers, Slogan and work spirit in the form of "A clean motorbike workshop will be busy" improving mechanical performance so that they always maintain cleanliness, Consistent and efficient delivery of goods is very important to maintain customer satisfaction and smooth operations at the Fans Motorcycle Workshop, The procedural process meets accounting standards. Fans Motor Workshop can ensure accuracy and transparency in financial reporting and maintain good cooperative relationships with suppliers to minimize conflicts with suppliers; several suppliers have been advised to minimize paperwork for suppliers to increase operational efficiency and reduce administrative costs.

Moreover, start communicating via digital platforms, one of which is WhatsApp. Maintain relationships and motivation with workers by providing proper education and training for employees in order to improve performance, maintain customer satisfaction, and ensure smooth daily operations. Can improve performance. Workers evaluate employee input by listening to and acting on employee input. So that the Fans Motor workshop can increase efficiency, innovation, and job satisfaction, monitor quality control by entrusting it to one of the employees at the Fans Motor Workshop, use production procedures on workshop equipment in order to maintain equipment in optimal condition and prevent failures that can cause a decrease in production.

The potential challenge motorbike fans face is that there is no head mechanic available, so there is no figure who can officially control and supervise the performance of the mechanics. Restock uncertainty occurs because the arrival of goods and the quantity available at the manufacturer cannot be predicted, causing delays in fulfilling customer requests; there are no posters and written work procedures that remind work safety in the Motor Fans workshop, so work errors occur each time, There needs to be competency for mechanics and employees to be able to improve employees' technical competence and soft skills, Providing quality products variations can complicate quality control and service standards. Even though the inventory management system is efficient, it still requires close monitoring to avoid storage problems.

CONCLUSION

This research concludes that the implementation of the Just in Time (JIT) system at the Motor Fan Workshop is effective, with input results of 74.16 and output of 70.58. A simple service process enables fast and precise repairs, supported by adequate spare parts availability and a controlled stock system. Although JIT principles are not yet fully understood, the workshop owner's guidance has increased operational efficiency and reduced repair wait times. The workshop offers high-quality products according to customer preferences, with regular evaluations to minimize product defects and regular training for technicians.

The potential benefits of implementing JIT include a fast and precise repair process, layout efficiency, easy stock monitoring, reduced complaints, cleanliness of the workshop area, structured administration, as well as quality control, and better service. Challenges faced include the need for a chief mechanic for official supervision, the uncertainty of spare parts restocking, the lack of work safety posters, increasing employee competency, the complexity of product quality control, and expanding inventory management supervision. With proper handling, workshops can improve operations and better meet customer expectations.

REFERENCES

[1] Apriyanti, R. I., Laksono, F. A., & Dharmawan, R. (2021). Penerapan Metode Just In TimeUntuk Efisiensi Pengendalian Persediaan Bahan Baku Pada Home IndustryWinonamodest Cakung Jakarta Timur. *Bulletin of Applied Industrial Engineering Theory*, *2*(p-ISSN 2720-9628 e-ISSN 2720-961X), 129–133.

[2] Feti Fatimah, F. & dkk. (2022). Kualitas Layanan Terhadap Kepuasan Pelanggan Pada Bengkel Sinar Abadi Motor Bringin Bondowoso. *Jurnal Ekonomi Dan Bisnis*, *1*, 166–173.

[3] Heitasari, D. N., & Tri Sutrisno Wahyu Effendi. (2023). Analisis Just in Time Tender Maintenance Boiler terhadap Nilai Jual Crude Oil dengan Metode Value Stream Mapping. *Jurnal INTECH Teknik Industri Universitas Serang Raya*, *9*(2), 155–163. https://doi.org/10.30656/intech.v9i2.6107

[4] Istiqomah, P. S., Vidya Nandita, W., & Sayekti, N. P. (2023). Pengaruh Implementasi Konsep Just-in-Time terhadap Efisiensi Operasional dan Pengendalian Biaya di Perusahaan Manufaktur (Studi Kasus PT Waskita Karya Tbk). *Pengaruh Implementasi Konsep Just-In-Time (Putri Silvia Istiqomah, Dkk) Madani: Jurnal Ilmiah Multidisiplin*, *221*(6), 221–230. https://doi.org/10.5281/zenodo.8117594

[5] Janson B, E. B. J., & Nurcaya, I. N. (2019). Penerapan Just in Time Untuk Efisensi Biaya Persediaan. *E-Jurnal Manajemen Universitas Udayana*, *8*(3), 1755. https://doi.org/10.24843/ejmunud.2019.v08.i03.p21

[6] Kazazi, A. (1994). A Method for Assessing JIT Effectiveness. In *Industrial Management & Data Systems* (Vol. 94, Issue 7, pp. 14–17). https://doi.org/10.1108/02635579410068275

[7] Oktaviani, S. A., Listianti, S., & Tripalupi, R. I. (2022). Penerapan Just in Time (Jit) Sebagai Solusi Pengendalian Persedian Perusahaan Di Masa Pandemi Covid-19. *AKSY Jurnal Ilmu Akuntansi Dan Bisnis Syariah*, *4*(1), 117–132. https://doi.org/10.15575/aksy.v4i1.17106

[8] Widjojo, J., Akuntansi, P. S., Madani, P. B., & Jit, S. (2022). *127-Article Text-334-2-10-20220910*. *1*(1), 1–15.

[9] Willem, W. (2018). Peranan Just in Time Method Untuk Peningkatan Produksi Perusahaan. In *AL-ULUM : Jurnal Ilmu Sosial dan Humaniora* (Vol. 4, Issue 1). https://doi.org/10.31602/alsh.v4i1.1459