After-Sales Business Process Optimization for SME Printing in Indonesia

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ABSTRACT

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Keywords Printing After Sales Service Business Process In managing a business, service to customers is something that cannot be underestimated. Customer satisfaction with the services provided will affect whether in the future the customer will carry out transactions again in his business or will choose another service that is more satisfying. After-sales service or after-sales service is a service that is rarely provided by a business to consumers. However, this service is an important service to find out how the level of customer satisfaction with business products is. In this study, we will describe after-sales service optimization in the SME printing business as a research case study. The implementation of this research uses descriptive research with data collection methods utilizing surveys and literature studies. The respondents involved in this study were customers who had made transactions in this SME printing business. This study concludes that by implementing an after-sales service system will be able to produce a positive impact for the business in the form of increased income, customer satisfaction and product orders.

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1 Introduction

After-sales service or often referred to as after-sales service is a means of disclosing consumer needs and a strategic driver for consumer retention of a type of business. Therefore, after-sales service can influence customer satisfaction and loyalty (Elsandra, 2016). Customer satisfaction is a person's feeling after comparing the performance he feels/experienced against his expectations (Arief, 2006).

Kotler and Keller (2012) explains that satisfaction is a type of someone's feelings that arise after comparing the performance or results of a product to the expected performance or results, if the performance is below expectations, the consumer is not satisfied. Conversely, if the results are in line with expectations, the customer will be satisfied with the services provided. In this case, after-sales service that has a warranty dimension is also one of the factors that affect customer satisfaction (Pastikarani & Astuti, 2005). Victoria, Ruswanti and Farichah argues that delivery and installation is the key to after-sales service that has an impact on consumers. After-sales service or after-sales service in the printing business has a great influence on customer satisfaction to determine reorders or repeat orders (Ferdinand, 2014).

Printing is an industry that produces text and images in bulk, especially with ink on paper using a printing press. Every day, billions of printed materials are produced. Such as newspapers, newsletters, magazines, and others. This is because survey results can quickly communicate ideas and information to thousands of people. Therefore, the after-sales service business processes in SME printing in Indonesia must be improved. As a case study, this research takes a printing SME that has not implemented after-sales business processes. Here will be tested by adding after-sales service in

the business process. After-sales service is applied to find out how the influence of this service on sales results and the level of customer satisfaction with the desired service and product.

Over time, two important things in business must be known so that a running business can be maintained indefinitely. These two things are information technology and innovation in business processes (Davenport & James, 1990). In business process innovation, appropriate analysis and patterns are needed to ensure business continuity and minimize failure (Susanne, 2011). Business processes over the past decade have received great attention. Many approaches have been proposed, but the results of the business process revolution are never completely standardized (Vergidis et al., 2007). Business processes are complex, but field studies of business processes will be more complex or even more extreme. Over the years, academics and researchers have worked intensely to provide operators with different business models and analytical tools to suit the needs of businesspeople (Bose, 2012). Based on some of the statements above, this research focuses on business processes that are considered to have an influence on big profits in this printing business, namely after-sales service business processes.

Wibisono explained that after-sales service is one of the important variables in increasing the company's competitiveness that must be considered in designing the company's business strategy to win the competition, in addition to excellence in price or cost, quality, delivery, flexibility, and product or service design (Dewi, 2016). After-sales service can be interpreted as services provided to customers after sales are made by providing repair and maintenance services (Kotler, 2010). Gaiardelli, Saccani, and Songini (2007) argue that after-sales service is a series of activities after the purchase of a product that aims to support customers in the use and disposal of goods.

In practice, this research will focus on the effect of implementing after-sales services on printing SMEs and analyzing the differences in sales results before and after-sales services are applied. The after-sales service used in this study is in the form of warranty and repair of goods if they are not following the wishes of the customer. The objectives to be achieved are to study after-sales service in a business process and to determine the effect of after-sales service on sales levels and customer satisfaction.

Judging from the opinion of Budiman et al (2021) business processes can be improved to be more effective and efficient. Business process efficiency can occur if there is a change for the better (Khoirunnisa et al., 2021). Motivation from Human Resources is needed to support the optimization of business processes (Budiman & Akhlis, 2021). With the existing motivation, it can be predicted that it will get more added value (Budiman & Ifriza, 2021) therefore the author wrote a research title entitled "Optimization of After-Sales Business Processes in Printing SMEs in Indonesia".

Method

This study used descriptive research methods. This study aims to optimize the after-sale service business process at a printing SME in Indonesia to increase sales income and maximize service to build relationships with customers.

The data collection methods used in this research are survey methods and literature study methods. The survey method is used to find out how interested buyers are in the desired after-sales service so that the printer can optimize the level of service required by customer satisfaction. The literature study method is carried out using literature research to obtain a basis related to the problem being studied.

The types of data obtained from this study are primary and secondary data. Primary data is the source of data obtained directly through surveys. While secondary data is data that comes from various reference libraries that are used to support other data.

3 **Results and Discussion**

3.1 Implementation of After Sales Service in SME Printing Business in Indonesia

Several ways can be done to implement after-sales service including:



1. Valued Customers.

The most important thing to do is to say thank you after the transaction is complete. Good design will cause buyers to pay more. Thank you can also be done via email, telephone, or greeting cards.

2. Communication.

The key to a harmonious after-sales service is to understand business communication. In this case, customer assistance is essential to answer consumer questions, gather feedback, and provide excellent service.

Product Information.

Customer service is also responsible for recommending products and informing customers about promotional codes for certain products. Customer service must understand all the information before providing recommendations to customers.

4. Warranty.

One of the important factors in after-sales service is warranty. Guarantees are given so that customers can ensure that the products ordered are in good condition and free from manufacturing defects.

3.2 Units

There are several important things in implementing an after-sales service strategy, including:

1. Creating Loyalty.

The most valuable benefit derived from after-sales service is customer loyalty because building a loyal customer base for a single product or service is difficult and time-consuming in the digital age.

2. Increase Sales.

In after-sales service, it also has a role in sales. This might be explained by how the process encourages shoppers to use word-of-mouth marketing and provide customer reviews.

3. Support Product Repair.

Repair here has various meanings. This can be done in terms of product quality, marketing strategy, and so on. By providing after-sales service, sellers can encourage buyers to provide feedback, which can help them identify deficiencies in the product or service provided to them. So the results can be used as an evaluation tool to improve the quality of products and services in the future.



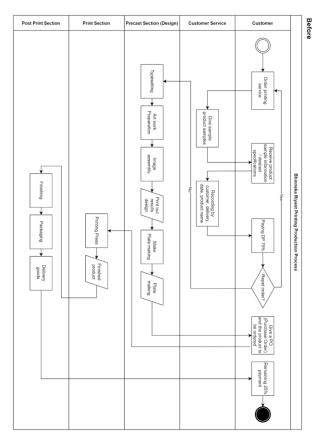


Figure 1. BPMN Printing Bhinneka Riyant before analysis (Putri, 2012)

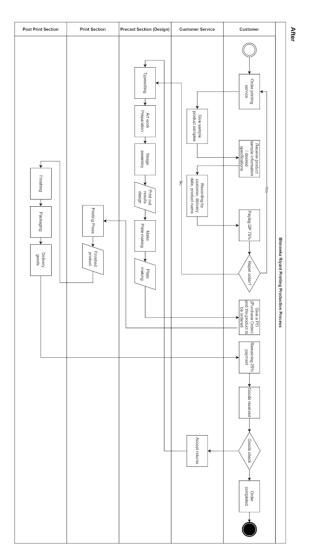


Figure 2. BPMN Printing Bhinneka Riyant after analysis

3.3 Customer Satisfaction Survey

The process of analyzing and measuring customer satisfaction is one of the most important processes and has the potential to increase customer trust. In this case, it is expected that the company will get positive feedback from customers, but if the company gets unsatisfactory feedback from customers, it will be an evaluation material for companies in the future to develop business processes or redesign existing business processes or one of the less than the maximum from the customer's point of view. To carry out this process several methods can be done as follows:

1. Customer centered.

Methods for obtaining customer-focused feedback by providing customer hotlines and providing suggestion boxes. This method provides an opportunity for customers to submit complaints freely and easily (Zeithaml et al., 2009)

2. Ghost shopper.

Ghost shoppers are hiring people to act as potential buyers to companies and competitors. In this method, the company will get information about the advantages and disadvantages of the company and competitors from the customer's point of view.

3. Customer satisfaction survey.

To get customer satisfaction feedback, this method is the most common method to do. Most companies use this method because, in addition to being right on target, this method is also



an easy method to do because the feedback directly reaches the company, and customers feel they get special attention from the company. (Maghsoudlou et al., 2014).

With the above methods, a survey is the most effective and efficient method to be used as a measure of customer satisfaction, so this study will use the survey method which was carried out twice before the after-sales service was implemented and after the after-sales service was implemented with the following steps:

- 1. Measurements are carried out online using the Google Form platform and using questions containing customer experiences during and after using this printing service.
- The questions asked are mostly about perceived experiences.
- 3. In the period before after-sales service was implemented, respondents assessed the aftersales service of Bhinneka Riyant printing by filling out the form provided, the first survey data would be obtained.
- 4. Based on the results of the first survey, it will be used as an evaluation material and also respondents who have filled out the first survey will be asked to fill out the second survey respondents after-sales service is implemented. (Andersen, 2007).

The following are the results of the first survey before implementing after-sales service:

Table 1. Survey Results Before After Sales Service Is Implemented

Respondent Number	Customer Satisfaction (Service)	Repurchase Wish	After Sales Service
Cust 1	4	4	4
Cust 2	5	5	3
Cust 3	5	4	4
Cust 4	4	4	3
Cust 5	5	3	3
Cust 6	4	4	4
Cust 7	5	5	3
Cust 8	4	4	4
Cust 9	5	4	3
Cust 10	4	5	4



Cust 11	5	3	3
Cust 12	4	4	4
Cust 13	4	3	3
Cust 14	5	4	4
Cust 15	3	3	3
Cust 16	5	5	3
Cust 17	4	3	3
Cust 18	5	5	4
Cust 19	4	4	4
Cust 20	5	4	5
Average	4,45	4	3,55

This study only aims to analyze customer satisfaction in terms of service and after-sales service regardless of background or further distribution of customers. Based on the first survey that has been conducted, the results are as above. It can be seen directly based on the average rating given by customers for customer satisfaction in terms of overall service is 4.45/5 which indicates that the service at this printer is good or maximum. However, at the point of wanting to repurchase or reorder, it gets a rating of 4/5 where this number is a number that is quite low compared to the maximum service.

While the average rating for After Sales Service from this printing customer is 3.55/5, this can be considered reasonable because at the time this survey was conducted the printer had not yet implemented a maximum after-sales service process. Therefore, a second survey was conducted which aims to analyze whether there is a difference between before implementing the After Sales Service business process and before implementing the process. The following are the results obtained from the second survey where customers who have made repurchase orders after After Sales Service have been implemented:

Table 2. Survey Results After After Sales Service Is Implemented

Respondent	Customer	Repurchase Wish	After Sales
Number	Satisfaction (Service)		Service
Cust 1	4	5	5

Cust 2	5	5	4
Cust 3	5	4	5
Cust 4	4	5	4
Cust 5	5	5	4
Cust 6	4	4	5
Cust 7	5	5	4
Cust 8	5	4	5
Cust 9	5	4	4
Cust 10	4	5	5
Cust 11	5	5	4
Cust 12	5	4	5
Cust 13	4	3	4
Cust 14	5	4	5
Cust 15	4	5	4
Cust 16	5	5	4
Cust 17	5	5	4
Cust 18	5	5	5
Cust 19	4	4	5
Cust 20	5	4	5

Average 4,65 4,5 4,5

In this second survey, positive feedback was received on the business processes that have been implemented, namely After Sales Service. The significant difference can be seen from the average After Sales Service rating which previously received a rating of 3.55/5 to 4.5/5, the value increased by 19% and also had an impact on the repurchase intention points which also increased from 4/5 to 4,5/5 or 10% increase. This shows that better after-sales service will have a positive impact on the customer's desire to repurchase or repeat orders at the Bhinneka Riyant printing press.

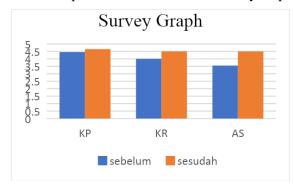


Figure 3. Comparison chart before and after after sales applied

So it can be said that the better the after-sales service applied to the printing business process, the higher the customer's desire to repurchase or re-order (Wijaya, 2019). With after-sales service, customers get service that shows them that we care about customer satisfaction, not only when they buy products or use our services, but also when the purchase is complete we will continue to serve well. Tarmizi (2016) states that after-sales service is implemented to be able to retain customers who can be able to repurchase or make repeat purchases if they are satisfied with the products and services that have been provided.

The survey data generates monthly turnover and profit in the Bhinneka Riyant printing business process in 2020. Following are the results obtained in 2020 before the implementation of after-sales service:

Table 3. Turnover and profit results before after sales service is implemented

Month	Turnover	Profit
January	Rp 1.150.000	Rp 101.000
February	Rp 1.179.000	Rp 139.000
March	Rp 1.205.000	Rp 113.000
April	Rp 2.145.000	Rp 135.000
May	Rp 1.102.000	Rp 185.000
June	Rp 1.237.000	Rp 126.000

July	Rp 1.221.000	Rp 111.000
August	Rp 2.247.000	Rp 238.000
September	Rp 2.214.000	Rp 209.000
October	Rp 1.268.000	Rp 134.000
November	Rp 2.327.000	Rp 337.000
December	Rp 2.311.000	Rp 325.000
Total	Rp 19.606.000	Rp 2.153.000

On the turnover and also the profit that has been obtained, positive feedback is obtained on the business processes that have been implemented, namely After Sales Service. The difference from the table before implementing after-sales service can be seen from the total turnover in 1 year getting Rp19.606.000 to Rp35.364.000, with this the turnover increased by Rp15.758.000. Not only has the turnover increased, but the profit has also increased. It can be seen from the table that before implementing after-sales service, the total profit in 1 year got Rp2.153.000 to Rp 3.630.000, with this the turnover increased by Rp1.477.000.

This shows that if after-sales service is applied, the results to be obtained will increase in the business process of the printing SME.

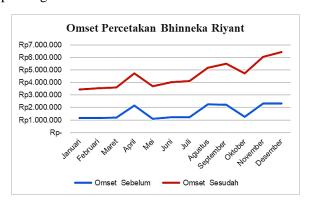


Figure 4. Comparison graph of turnover before and after after sales service is implemented

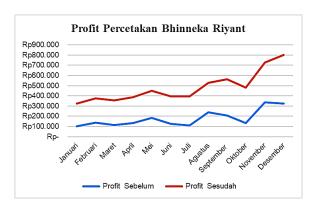


Figure 5. Profit comparison chart before and after after sales service is implemented

From the two graphs, it can be concluded that in the printing business process, implementing aftersales service can increase results in terms of turnover and profit.

Conclusion

After-sales service or after-sales service is a service provided by business owners to consumers or customers to improve service to customers both in terms of quality and quantity of products and services. After-sales service or service in the printing business has a great after-effect on customer satisfaction to determine resale orders or repeat orders (Gunasekaran, 2002).

Based on the results of the survey graphs and income tables before and before the implementation of after sales services in the above research, it can be concluded that:

- 1. After-sales service is proven to be effective and efficient in increasing customer satisfaction with the services provided.
- 2. After-sales service is proven to increase sales revenue better than before the implementation of after-sales.
- 3. After-sales service allows customers to repeat orders and increase sales in the future.

References

Andersen, B. (2007). Business process improvement toolbox (2nd ed). Milwaukee, Wisconsin: ASQ **Quality Press**

Arief, M. (2006). Pemasaran jasa & kualitas pelayanan (1st ed). Malang, Indonesia: Bayumedia **Publishing**

Bose, T. K. (2012). Application of fishbone analysis for evaluating supply chain and business process- A case study on The St James Hospital. International Journal of Managing Value and Supply Chains, 3(2)

Budiman, K., & Akhlis, I. (2021). Changing user needs and motivation to visit a website through ad experience: A case study of a university website. Journal of Physics: Conference Series, 1918(4)

Budiman, K., & Ifriza, Y. N. (2021). Analysis of earthquake forecasting using random forest. Journal of Soft Computing Exploration, 2(2), 153-162

Budiman, K., Subhan, S., & Efrilianda, D. (2021). Business process re-engineering to support sustainability of the sales commodities in large transaction with quotation system. Scientific Journal of Informatics, 8(1), 84-91

Davenport, T. H., & James E. S. (1990). The new industrial engineering: Information technology and business process redesign. Magazine: Summer 1990. July 15

Dewi, M. (2016). Pengaruh produk, harga dan layanan purna jual terhadap keputusan pembelian smartphone di toko langsa ponsel. Jurnal Manajemen dan Keuangan, 5(1), 449-458

Elsandra, Y. (2017). Pengaruh kualitas produk dan layanan purna jual terhadap kepuasan pelanggan pada PT. Sharp Electronics Indonesia di Kota Padang. Jurnal Ekonomi dan Bisnis Dharma Andalas, 18(1), 185

- Ferdinand, A. (2014). Metode penelitian manajemen. Semarang, Indonesia: Universitas Diponegoro Gunasekaran, A., & Kobu, B. (2002). Modelling and analysis of business process reengineering. International journal of production research, 40(11), 2521-2546
- Khoirunnisa, O. G., Ananda, D., Pertiwi, A., Dianti, E. N., & Maulana, A. (2021). Improvement business process model and notation on the drink distribution industries using six core element. Journal of Soft Computing Exploration, 2(2), 99-106
- Maghsoudlou, Z., Mehrani, H., & Azma, F. (2014). The role of after-sales service in customer satisfaction: case study (Samsung House Appliances). International Research Journal of Management Sciences, 2(6), 175–179
- Pastikarani, A., & Astuti, S. R. T. (2005). Analisis pengaruh faktor-faktor minat beli ulang dengan kepuasan pelanggan sebagai variabel intervening. Diponegoro Journal of Management, 5(2),
- Putri, N. A. (2014). Analisis Proses Bisnis Pada Percetakan Bhinneka Riyant. Universitas Dian Nuswantoro Semarang, 1-15
- Leist, S., Griesberger, P., & Johannsen, F. (2011). A Systematic Approach for the Improvement of Business Processes based on Techniques and Patterns. ERCIS,15
- Tarmizi, A. (2016). Pengaruh pelayanan purna jual terhadap keputusan pembelian konsumen pada PT Jaya Indah Motor Cabang Jambi. Jurnal Ilmiah Universitas Batanghari Jambi, 16(3), 115-
- Vergidis, K., Tiwari, A., & Majeed, B. (2007). Business process analysis and optimization: Beyond reengineering. IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews), 38(1), 69-82
- Wijaya, Y. (2019). Pengaruh after sales service terhadap repurchase intention melalui customer satisfaction sebagai variabel intervening di PT Damai Sejahtera Abadi (Ufo Elektronika) Surabaya. *Agora*, 7(1)
- Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2009). Services marketing: Integrating customer focus across the firm (5th ed.). Singapore: McGraw-Hill and Irwin