



# Implementation of supply chain integration and influence on operational performance in bakery factory in Poasia district, Kendari city

Hadinda

Department of Management, Faculty of Economics and Business, Universitas Pattimura, Ambon, Indonesia

## Article Info

### Article history:

Received Nov 19, 2024

Revised Dec 10, 2024

Accepted Dec 21, 2024

### Keywords:

Customer;  
Internal;  
Operational Performance;  
Supply Chain Integration;  
Suppliers.

## ABSTRACT

One of the company's problems is that the supply chain is poorly integrated, impacting operational performance. This study aims to see the implementation of supply chain integration and its impact on operational performance. The research methods are qualitative and quantitative. The population of this study was a bakery in the Poasia subdistrict, Kendari City. The sample of this study was 44 employees working in a bakery in the Poasia subdistrict, Kendari City. The sampling uses a census approach, which takes the entire population as a sample. Research Results The study results show that supplier integration has a positive effect on operational performance, customer integration has a positive impact on operational performance, and internal integration has a positive effect on operational performance. This study concludes that supply chain integration positively impacts operational performance.

*This is an open-access article under the CC BY-NC license.*



## Corresponding Author:

Hadinda,  
Departemen of Management,  
Universitas Pattimura,  
Jl. Ir. M. Putuhena, Poka, Kec. Tlk. Ambon, Kota Ambon, Maluku, Indonesia  
Email: [diindajefriz@gmail.com](mailto:diindajefriz@gmail.com)

## 1. INTRODUCTION

In the era of globalization, competition is no longer limited to one region but involves countries around the world. In Indonesia, businesses now operate in a complex and dynamic environment and are increasingly connected to a network of supply chain partners. This requires businesses to adapt more quickly, increase operational efficiency, and develop strategies to remain competitive in a challenging global market. High competition forces business players to continue to increase production capacity optimally to meet market demand and achieve maximum sales levels. With changes in the external and internal environment of the business, the owner or manager must be able to pay attention to functions within the business, one of which is supply chain integration.

A bakery is a manufacturing company that runs its business by making and selling bread. The main business processes of a bakery company focus on the supply chain, including raw material procurement, production planning and inventory management, bread production, and sales of the final product. Each stage of the supply chain must be managed effectively for the company to compete in the market. Good management in the procurement of raw materials ensures product quality, proper production planning ensures the availability of bread as per demand, and a solid sales strategy helps increase competitiveness in the market. Supply Chain Management is a solution for managing business processes related to supply chain activities. The supply chain itself plays an important role in efforts to meet the growing market demand (Githa & Raharja, 2021).

Bakeries have specific operational characteristics, such as fast production processes, strict management of raw material stocks (because many of them expire easily), and fluctuating market demand. This is suitable for research focusing on supply chain management related to customers and suppliers. This research considers that integration is not only limited to a firm but also includes relationships between the firm and parties at the upstream and downstream levels. This integration does not take the form of ownership or domination, but rather collaboration through information sharing between firms and related activities. Supply chain integration refers to the degree to which there is strategic alignment and close relationships between a firm and its supply chain partners, both in terms of internal (cross-functional) and external (supplier and customer) integration (Nurjanaha) & Siti Nursyamsiah, 2022). The literature conceptualizes SC integration as consisting of three main dimensions: supplier, customer, and internal integration. External integration, commonly divided into customer and supplier integration, refers to the degree to which a firm partners with its key suppliers and customers to synchronize and collaboratively develop inter-organizational strategies, practices, and processes to create shared value. (Kotzab et al., 2019).

Supply chain management is a systemic approach to managing the entire flow consisting of the flow of information, materials, and services from raw material suppliers to factories and warehouses to final consumers (Brown et al., 2020). In supply channels, three types of flows need to be managed, namely the flow of goods/materials that flows from top to bottom, financial flows that flow from bottom to top, and information flows from top to bottom or vice versa (Maddeppungeng et al., 2015). Information flow, long-term relationships, collaboration, cooperation, and integration processes are necessary for companies to increase the effectiveness of operational performance (Pratiwie et al., 2023).

Supply chain management is a concept related to the functions of optimal product distribution. Implementing supply chain management can support a company's ability to compete and perform effectively (Afifah, 2022). Supply chain (SC) integration refers to the extent of strategic alignment, and interconnection of the firm and its supply chain partners, which consists of internal (cross-functional) and external (customer and supplier) integration. The literature explains that integration in the supply chain consists of three main dimensions: supplier, customer, and internal integration. External integration, which includes relationships with customers and suppliers, refers to how closely the company collaborates with these parties. This collaboration aims to align inter-organizational strategies, practices, and processes in an integrated manner, resulting in mutually beneficial shared value. (Sundari & Urip, 2021).

Bread factories are companies operating in the bread industry that are forced to continue to innovate and compete with other large companies, as well as compete with small companies. Companies often experience damage to materials received from suppliers. Another problem is that the number of returned or not sold products causes Bounty Independent Bread Factory to receive customer complaints. With the phenomenon experienced by Grace Independent Bread Factory, the performance of each line, both upstream and downstream and vice versa, must be in very good condition. (Maulana & Reisanti, 2020).

The Bread Factory is a company that produces bread with various flavors and affordable prices using an upstream-downstream production system that covers all activities not only limited to the product creation or production process but also until the production reaches the consumer. The problem that occurs at Poasia District Bakery Factory is that the supply chain management is not yet optimal, especially in the aspect of the internal supply chain. Delays in the distribution of flour to the bakery factories have led to a lack of availability of ingredients such as flour to meet the demand. This causes the production quantity to not match the demand, thereby affecting the business performance of the company.

Supplier integration refers to the exchange of information and coordination with key suppliers, providing valuable insights into supplier capabilities, processes, and constraints, enabling effective forecasting and planning, process and product design, and effective overall operations management. (Afshan et al., 2024). Supplier integration is a part of supply chain integration that

deals with suppliers maintaining good relationships and long-term cooperation between supply chain partners and the company. The supply chain is related to important decisions of the company in terms of performing processes and sharing information about demand, forecasts, production, and in terms of inventory building (Kusuma & Soediantono, 2022).

Customer integration involves activities for information sharing, close cooperation, and collaboration with customers to facilitate the company to develop insights into strategic market opportunities and expectations (Wong et al., 2011). Internal integration refers to the extent of intra-company cross-functional collaboration and information-sharing activities that take place through synchronized and interconnected systems and processes to meet customer needs (Williams et al., 2013).

Supply chain integration plays an important role in the process of practicing supply chain management to increase its effectiveness. The more efficient the supply chain integration of a company, the better the overall performance. Han. The better the supply chain integration of a company, the better the overall performance of the company. This condition supports companies in effectively optimizing integrated SCM practices (Nasir & Supriatna, 2022). Research conducted by Johannes found that there is a positive and significant effect between supply chain integration and operational performance (Edbert & Pakpahan, 2023). The description of operational performance variables in this study takes two aspects of the balanced scorecard approach, namely the internal business process perspective and customer perspectives such as availability of goods, inventory costs, repurchases, quality of goods, complaint rates, and customer satisfaction. (Latuconsina & Sariwating, 2020). The description of operational performance variables in this study takes two aspects of the balanced scorecard approach, namely the internal business process perspective and customer perspectives such as availability of goods, inventory costs, repurchases, quality of goods, complaint rates, and customer satisfaction. (Maharani et al., 2022).

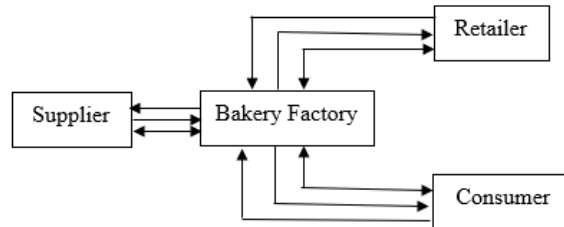
## 2. RESEARCH METHOD

This research applies qualitative methods in the form of case studies and quantitative studies. Qualitative data were obtained by interviewing the owners and employees of the bakery factories. Meanwhile, quantitative data was obtained from the distribution of questionnaires to the respondents. Quantitative in this study to see the effect of variables namely supplier integration, customer integration, internal integration, and operational performance in this research. The case object in this study is a bread factory in Poasia sub-district, Kendari City. The population in this study amounted to 44 employees including factory owners at bread factories in Poasia District. The sampling technique in this study used total sampling or saturated samples, namely the entire population was sampled. The analytical tool used to see the results of the study is the SPSS analysis tool.

## 3. RESULTS AND DISCUSSION

### **Description of the Implementation of Supply Chain Management Integration**

Based on the results of interviews with several informants who have been interviewed, it is found that the integration of logistics activities crosses boundaries outside the company where external integration can be measured through coordination and cooperation with supply chain members, namely suppliers and customers. The bread supply chain in the Poasia sub-district bakery factory has three kinds of flows that must be managed, namely the flow of goods, the flow of money, and the flow of information by analyzing the supply chain flow using interviews and observations so that it can be seen whether the supply chain is ineffective.



**Figure 1.** Structure of flow of goods, flow of money and flow of information

Description:

- : The flow of goods is smooth.
- ← : The flow of money is smooth.
- ↔ : Information flow is smooth

Based on the results of research on the flow of goods, flow of money, and information that has been carried out at the Poasia District Bread Factory, Kendari City, the process of flow of goods that occurs in the supply chain of bread production at the Poasia District Bread Factory which moves from upstream to downstream starting from the chain actors Supplier - Bread Factory - Distribution by Sales - Retailer - Consumer is running smoothly. The flow of money that occurs in the flow of goods, flow of money and information on bread production at Pabri Roti moves from upstream to downstream, namely from Consumers - Retailers - Bread Factory - Suppliers which runs smoothly. This money flow process occurs between buyers and sellers. Where the buyer makes the payment process for the goods he has bought from the supplier or seller. The payment process is done in cash (cash) and transfer. The information flow process that occurs in the research results of the flow of goods, flow of money, and bread production information in the bread factory runs from upstream to downstream and from downstream to upstream.

**Validity and Reliability Test**

**Validity Test Results**

The validity test is carried out to see the ability of the research instrument to reveal the problem to be revealed. Meanwhile, the reliability test is an index that shows the extent to which the measurement results remain consistent when measuring two or more times on the same issue.

The results of the validity test based on a sample size of 44 respondents in the Correlated Item-Total Correlation column, obtained the results of all r\_counts greater than r table (0.3203), then the data is declared valid.

**Reliability Test**

**Table 1.** Reliability test results

No	Variable	Cronbach's Alpha value	Conclusions
1.	Supplier Integration (X1)	0,861	Reliability
2.	Customer Integration (X2)	0,730	Reliability
3.	Internal Integration(X3)	0,748	Reliability
4.	Operasional Performance (Y)	0,718	Reliability

Source: SPSS 24 Data Processing Results, 2024

It can be seen that each variable between the variables of product diversity, price, customer satisfaction, and customer loyalty, has a Cronbach Alpha value  $\geq 0.60$ .

**Table 2.** Partial test (t-test)

Model	Coefficients			t	Sig.
	Unstandardized Coefficients		Standardized		
	B	Std. Error	Coefficients Beta		
(Constant)	1,346	,784		1,717	,094
1 Supplier Integration (X <sub>1</sub> )	,148	,037	,214	4,022	,000
Customer Integration (X <sub>2</sub> )	,333	,067	,225	5,001	,000
Internal Integration(X <sub>3</sub> )	,690	,065	,645	10,610	,000

a. Dependent Variable: Operational Performance

### Effect of Supplier Integration (X<sub>1</sub>) on Operational Performance (Y)

From the table above, the results of the calculation of the t-test value of the supplier integration variable (X<sub>1</sub>) with a t count of 4.022 and a significance of 0.000. Because the t count is greater than the t table (4.022 > 3.183) and the significance is less than 5% (0.000) then H<sub>01</sub> is accepted and H<sub>a1</sub> is rejected, it can be stated that supplier integration has a significant effect on operational performance (Y). The integration of the company with suppliers must be maintained both through coordination and cooperation. This step aims to strengthen the strategy and operational capabilities of suppliers so that they can contribute more effectively in supporting the achievement of predetermined company goals. (Stuart, 1997). This research is in line with research conducted by Mario (2022)(Regar & Rachmarwi, 2022), His research states that the supply chain integration dimension of suppliers supports improved operational performance. Research on supplier integration shows a positive relationship between supplier integration or overall supply chain integration and operational performance as well as the buyer's business performance as research conducted by Shin et al. (2021). (Shin & Park, 2021) Dalam hubungan integrasi pemasok terhadap kinerja operasional terdapat hubungan langsung antara kinerja operasional rantai pasok dan integrasi pemasok. (Tarigan et al., 2021).

### Effect of Customer Integration (X<sub>2</sub>) on Operational Performance (Y)

From the table above, the results of the calculation of the T-test value of the customer integration variable (X<sub>2</sub>) with a T-count of 5.001 and a significance of 0.000. Because the T-count is greater than the table (5.001 > 3.183) and significantly smaller than 5% (0.000), H<sub>01</sub> is accepted and H<sub>a1</sub> is rejected, it can be stated that customer integration has a significant effect on operational performance (Y).

### The Effect of Internal Integration (X<sub>3</sub>) on Operational Performance

From the table above, the results of the calculation of the T-test value of the Internal integration variable with a t-count of 10,810 and a significant value of 0.000. Because the t-count is greater than the t-table (10.810 > 3.183) and significantly smaller than 5% (0.000), H<sub>03</sub> is accepted and H<sub>a3</sub> is rejected, it can be stated that internal integration has a significant effect on operational performance.

### Discussion

The relationship between suppliers, customers, and companies, must be well managed and always improved so that there is a sustainable relationship and suppliers are responsible for product quality and so that the distribution of products from upstream to downstream is on time to the end user. So the improvement of long-term good relationships and mutual trust between companies, suppliers, and customers is needed in order to achieve efficiency in operational performance. (Latuconsina & Sariwating, 2020). Based on the research obtained supply chain integration both from indicators of supplier integration, customer integration, and internal integration has a significant effect on operational performance. Empirical research that examines the relationship between supply chain integration and operational performance (Simatupang & Sridharan, 2004) concluded that supply chain integration is directly related to business performance. Also, internal collaboration directly affects operational performance. Companies can do one way that can improve and improve

company performance and operational performance, namely by implementing a supply chain management (SCM) strategy. Research conducted by (Ramdani & Hidayati, 2023) found that PT Toyota itself always pays attention to the suppliers, purchasing, and production used with the aim of maximizing company performance. Choosing the right supplier, good service, quality improvement, customer satisfaction surveys, and regular business operational updates considering the Covid-19 pandemic have become some of the factors that support business success.

Integration in the supply chain reflects a collaborative relationship between the parties involved in it. With good management, this integration is able to increase efficiency and effectiveness in the production process, thus contributing to increasing company profits while providing higher satisfaction to consumers (Widjaja et al., 2022). However, research conducted by Tirta Yoga that supply chain management and operational performance efficiency are positively correlated, supply chain integration and operational performance are negatively correlated, and a positive correlation was found between the two in a study conducted in Malang City, Indonesia (Yoga et al., 2022). Supply chain integration involves the coordination of various activities, such as stock planning, material procurement, production, finished goods management, and product returns. All of these processes must be thoroughly connected, both at the internal company level and between parties in the supply chain. (Rusmana & Setyawan, 2021).

#### 4. CONCLUSION

The Poasia District Bread Factory implements a supply chain management system in company activities from suppliers, and production processes to distribution to customers, the conclusions of this study are: a) Supplier integration has a positive and significant effect on operational performance, b) Customer integration has a positive and significant effect on operational performance, c) Integration integration has a positive and significant effect on operational performance. Based on the results of this study, the Poasia District Bread Factory in Kendari City should maintain operational performance and pay attention to the integration of the supply chain in the bread industry. This study has several limitations, including the fact that the research object only uses enterprises engaged in the bread industry, so the results cannot be generalized to other fields. Therefore, other researchers can research enterprises in different fields or expand the scope of the study not only to a sub-district and add research variables such as inventory and supply chain commitment.

#### REFERENCES

- Afifah, N. (2022). Pengaruh Supply Chain Management terhadap Kinerja Operasional Perusahaan Studi Kasus Pada Pizza Hut Kota Samarinda. *Jurnal Administrasi Bisnis FISIPOL UNMUL*, 10(4), 290. <https://doi.org/10.54144/jadbis.v10i4.9091>
- Afshan, N., Govindarajulu, C., Subramanian, G., Gunasekaran, A., & Motwani, J. (2024). Supply chain integration and performance paradox: is relational performance the missing link? *International Journal of Logistics Research and Applications*, March, 1-25. <https://doi.org/10.1080/13675567.2024.2322508>
- Brown, S., Bessant, J., & Jia, F. (2020). Supply Management. In *Strategic Operations Management*. <https://doi.org/10.4324/9781315123370-5>
- Edbert, J. W., & Pakpahan, A. K. (2023). Pengaruh Kepercayaan, Komitmen dan Integrasi Rantai Pasokan terhadap Kinerja Operasional pada Perusahaan Makanan di Jakarta. *Jurnal Pendidikan Tambusai*, 7(2), 18719-18729.
- Githa, D. P., & Raharja, I. M. S. (2021). E-Supply Chain Management Pada Toko Roti Menggunakan Odoo 11.0. *SINTECH (Science and Information Technology) Journal*, 4(2), 184-194. <https://doi.org/10.31598/sintechjournal.v4i2.976>
- Kotzab, H., Darkow, I. L., Bäuml, I., & Georgi, C. (2019). Coordination, cooperation and collaboration in logistics and supply chains: A bibliometric analysis. *Production*, 29. <https://doi.org/10.1590/0103-6513.20180088>
- Kusuma, D. I., & Soediantono, D. (2022). How The Role of Supplier Integration, Manager Transformational Leadership on Supply Chain Performance in Defense Industries? *Journal of Industrial Engineering & Management Research*, 3(3), 98-110. <https://www.jiemar.org/index.php/jiemar/article/view/290>
- Latuconsina, Z., & Sariwating, N. (2020). Pengaruh Dimensi Dari Supply Chain Management Terhadap Kinerja

- Operasional Toko Komputer Di Kota Ambon. *Jurnal Cita Ekonomika*, XIV(2), 67-80. <https://doi.org/10.51125/citaekonomika.v14i2.2725>
- Maddeppungeng, A., Abdullah, R., & Kaswan. (2015). Analisis Integrasi Supply Chain Management (SCM) Terhadap Kinerja Dan Daya Saing Pada Industri Kontruksi. *Jurnal Fondasi*, 4(2), 19-30.
- Maharani, D., Haris, H., Aprillia, N., Kelly, Andryanto, Marthin, R., Flowerensia, D., Feby, Cuandra, F., & Zai, I. (2022). Pengaruh Supply Chain Management Terhadap Operasional Perusahaan Dan Kendala Procurement Sistem Erp Pada Pt Unilever Indonesia Tbk. *Transekonomika: Akuntansi, Bisnis Dan Keuangan*, 2(3), 113-126. <https://doi.org/10.55047/transekonomika.v2i3.133>
- Maulana, A., & Reisanti, N. S. (2020). Analisis Integrasi Supply Chain Management (SCM). *Article in Supply Chain Management, December*.
- Nasir, A., & Supriatna, E. (2022). Pengaruh praktek Supply Chain Management (SCM) dan integrasi supply chain terhadap kinerja Perusahaan Pada PT. Indofood CPB Sukses Makmur Tbk. *Journal of Innovation Research Dan Knowledge*, 2(3), 621-628.
- Nurjanaha), I. A., & Siti Nursyamsiah. (2022). Pengaruh Supply Chain Integration terhadap Kinerja Operasional yang Dimediasi oleh Supply Chain Risk Management pada Industri Mebel di Kabupaten Jepara, Jawa Tengah. *Selekta Manajemen: Jurnal Mahasiswa Bisnis & Manajemen*, 01(03), 57-75.
- Pratiwie, D., Sulistiyandari, S., & Setianingsih, R. (2023). Pengaruh Supply Chain Management Terhadap Kinerja Operasional Pada Pt Home Center Indonesia. *Prosiding Seminar Nasional Ekonomi, Bisnis & Akuntansi*, 3, 816-836.
- Ramdani, R. A., & Hidayati, R. (2023). INTERVENING (Studi pada Industri Kecil dan Menengah Bordir di Kota Tasikmalaya). *Diponegoro Journal of Management*, 12(1), 1-13. <http://ejournal-s1.undip.ac.id/index.php/dbr>
- Regar, M. Y., & Rachmarwi, W. (2022). Pengaruh Manajemen Mutu Terpadu Dan Manajemen Rantai Pasokan Terhadap Kinerja Operasional Pt. Berkat Jaya Makmur Abadi. *Jurnal Manajemen Bisnis Krisnadwipayana*, 10(2), 537-544. <https://doi.org/10.35137/jmbk.v10i2.715>
- Rusmana, A. W., & Setyawan, I. (2021). Pengaruh Integrasi Supply Chain Terhadap Kinerja Supply Chain. *Jurnal Bisnis, Logistik Dan Supply Chain (BLOGCHAIN)*, 1(2), 67-76. <https://doi.org/10.55122/blogchain.v1i2.329>
- Shin, N., & Park, S. (2021). Supply chain leadership driven strategic resilience capabilities management: A leader-member exchange perspective. *Journal of Business Research*, 122(September 2020), 1-13. <https://doi.org/10.1016/j.jbusres.2020.08.056>
- Simatupang, T. M., & Sridharan, R. (2004). Benchmarking supply chain collaboration: An empirical study. *Benchmarking*, 11(5), 484-503. <https://doi.org/10.1108/14635770410557717>
- Sundari, S., & Uripi, C. R. (2021). Kapabilitas Membangun Jaringan dengan Pemasok untuk Meningkatkan Kinerja Operasional Pada Toko Aksesoris Telepon Genggam Di Kabupaten Banyumas. *Eksis: Jurnal Ilmiah Ekonomi Dan Bisnis*, 12(1), 84. <https://doi.org/10.33087/eksis.v12i1.239>
- Tarigan, Z. J. H., Mochtar, J., Basana, S. R., & Siagian, H. (2021). The effect of competency management on organizational performance through supply chain integration and quality. *Uncertain Supply Chain Management*, 9(2), 283-294. <https://doi.org/10.5267/j.uscm.2021.3.004>
- Widjaja, F. N., Chanti, S., & Setyawan, A. B. (2022). Pengaruh Supply Chain Integration Terhadap Business Performance Pada UMKM Fashion Di Surabaya. *Prosiding SENAMA 2022*, 1-12.
- Williams, B. D., Roh, J., Tokar, T., & Swink, M. (2013). Leveraging supply chain visibility for responsiveness: The moderating role of internal integration. *Journal of Operations Management*, 31(7-8), 543-554. <https://doi.org/10.1016/j.jom.2013.09.003>
- Wong, C. Y., Boon-Itt, S., & Wong, C. W. Y. (2011). The contingency effects of environmental uncertainty on the relationship between supply chain integration and operational performance. *Journal of Operations Management*, 29(6), 604-615. <https://doi.org/10.1016/j.jom.2011.01.003>
- Yoga, T., Koestiono, D., & Shinta, A. (2022). Analisis Pengaruh Praktek dan Integrasi Rantai Pasok Terhadap Kinerja Operasional UKM Agroindustri Di Kota Malang. *Jurnal Agrinika: Jurnal Agroteknologi Dan Agribisnis*, 6(1), 34. <https://doi.org/10.30737/agrinika.v6i1.2164>