

The Influence of Employee Training and Motivation on Supply Chain Efficiency Strategy at PT. Indojoya Agrinusa

Surya Abadi Simanjuntak, Siswa Pratama, Maya Syaula

Abstract

This research was conducted at PT. Indojoya Agrinusa using two independent variables, namely Training and Motivation, while the dependent variable is Supply Chain Efficiency Strategy. The population in this study was 41 people, with sample data of 41 people using saturated samples. The data analysis technique in this study used multiple linear regression, classical assumptions and hypothesis testing. The results of the study indicate that Training and Work Motivation simultaneously have a positive and significant influence on Supply Chain Efficiency Strategy at PT. Indojoya Agrinusa, with an F count of $80.239 > F(\text{table})$ of 4.09 at sig. $0.000 < 0.05$. Training partially has a positive and significant effect on Supply Chain Efficiency Strategy at PT. Indojoya Agrinusa ($t \text{ count value} > t \text{ table}$, $2.267 > 1.994$ at sig. $0.010 < 0.05$). Motivation partially has a positive and significant effect on Supply Chain Efficiency Strategy at PT. Indojoya Agrinusa ($t \text{ count value} > t \text{ table}$, $8.698 > 1.994$ at sig. $0.015 < 0.05$). Based on the adjusted R Square figure of 0.721 which can be called the coefficient of determination which in this case means 72.1% of the Supply Chain Efficiency Strategy can be obtained and explained by Employee Training and Motivation. While the remaining $100\% - 72.1\% = 27.9\%$ is explained by other factors or variables outside the model such as Facilities, Inventory, Transportation and others.

Keywords: Supply Chain Efficiency, Training, Motivation.

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Introduction

A supply chain is a network involving various parties, from suppliers, producers, distributors, to end consumers, who interact with each other to create added value (Chopra & Meindl, 2019). Good supply chain management is not only oriented towards the flow of goods and services, but also on the flow of information, finances, and inter-organizational relationships. Supply chain strategy is generally defined as a comprehensive approach used by companies to integrate suppliers, producers, warehouses, and stores, so that products can be produced and distributed in the right quantities, to the right locations, and at the right time to minimize costs while meeting consumer needs (Mentzer et al., 2001). One important factor in the human aspect of the supply chain is employee training. Training is defined as a systematic process to improve the knowledge, skills, and abilities of employees so they can perform their jobs more effectively (Noe, 2017). In the context of the supply chain, training plays a strategic role because it enables employees to understand distribution flows, master logistics technology, and respond more quickly to changes in demand. Research by Kusrini et al. (2024) shows that effective logistics training programs can improve coordination between departments, accelerate the flow of goods, and reduce error rates in distribution. Besides training, another equally important factor is employee motivation. Motivation is defined as internal and external drives that generate enthusiasm and direct a person's behavior toward achieving specific goals (Robbins & Judge, 2019). Motivation plays a crucial role in the supply chain because motivated employees tend to be more disciplined, creative, and proactive in addressing operational issues (Nusraningrum et al., 2024). Recent research also confirms that employee motivation in the logistics sector can improve supply chain performance and efficiency by increasing work engagement and a more conducive work environment (Jahangir et al., 2025). PT. Indojaya Agrinusa, a distribution and logistics company in Indonesia, faces similar challenges. The company has an extensive distribution network spanning various regions in Sumatra and its surrounding areas. However, over the past five years, PT. Indojaya Agrinusa has continued to face challenges such as distribution delays, high operational costs, and shipping errors. Based on the company's internal report (PT. Indojaya Agrinusa, 2024), the on-time delivery rate remains at an average of 87%, below the ideal industry standard of over 95%. Furthermore, distribution costs have been increasing annually, resulting in a decline in the company's profit margin. This situation underscores the need for PT. Indojaya Agrinusa to implement a more comprehensive supply chain efficiency strategy that involves human resources, particularly employee training and motivation.

Literature Review

2.1 Supply Chain Efficiency

Supply chain efficiency is a major concern for companies because it is directly related to cost reduction, accelerated order fulfillment times, and improved customer service. Chopra & Meindl (2019): Supply chain efficiency is the ability of a supply chain to manage the flow of products, information, and funds at minimal cost and at optimal speed. Beamon (1999): Supply chain efficiency can be measured by resource utilization, output, and system flexibility.

According to Chopra & Meindl (2019), it is emphasized that: "Efficiency in the supply chain is also influenced by supporting factors that can strengthen efficiency in today's modern dimension, namely: (1). Digital Technology Capacity — the use of ERP, IoT, and big data analytics to optimize supply chain planning. (2). Human Resource Capacity and Training — increasing human resource competency in understanding and implementing technology-based supply chain systems. (3). Team Motivation and Coordination — the human factor is key to

implementing a sustainable efficiency strategy, because interdepartmental coordination depends on work motivation and internal collaboration..

Chopra & Meindl (2019) place supply chain efficiency within a framework of drivers that determine supply chain performance. The following indicators summarize metrics commonly used to assess efficiency: Cost efficiency, Cycle time/Lead time, Inventory turnover, On-time delivery/Reliability, Asset utilization, Responsiveness/Flexibility, Information accuracy & visibility.

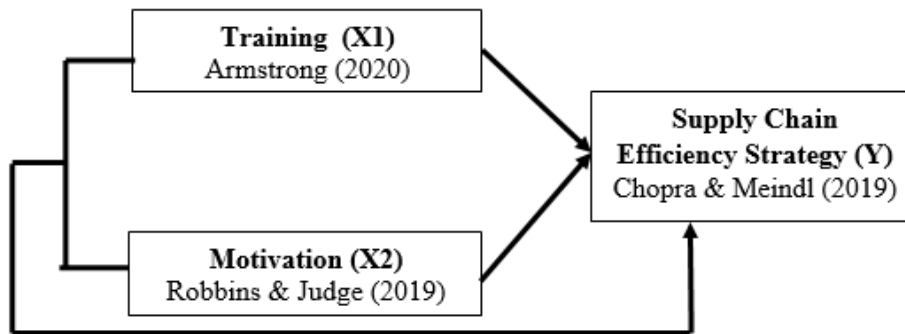
2.2 Training

In the workplace, we often hear about training programs in companies, organizations, institutions, or even educational institutions. This can be assumed that training is very important for workers and employees to work more masterfully and better at the jobs they hold or will hold in the future. According to Armstrong (2020: 171) in his book *Handbook of Human Resource Management*, training is: "A planned and systematic process to change behavior through learning activities, programs, or instructions that enable individuals to acquire the knowledge, skills, and competencies necessary to carry out their jobs effectively." Armstrong emphasizes that training is not merely a technical learning activity, but an integral part of an organization's strategy to improve individual and overall organizational performance. Training focuses on short-term capability enhancement to support work effectiveness, while development is more long-term and prepares individuals for future responsibilities (Armstrong, 2020: 172). Armstrong (2020) outlines several indicators that can be used to measure training effectiveness, namely: Training Needs Analysis, Training Planning, Training Implementation, Training Evaluation, and Transfer of Learning. Motivasi Motivation comes from the Latin word "movere," meaning support or assistance. Motivation is an internal drive to act and behave. The term "motivation" is inseparable from the words "needs" or "want." Motivation addresses how to inspire a person/employee to work, encouraging them to work by optimally motivating them to achieve organizational goals. Motivation is crucial because it fosters the desire and enthusiasm of every employee to work hard and achieve high productivity. A person's behavior is influenced and stimulated by their desires, the fulfillment of their needs, and their goals and satisfaction. According to Stephen P. Robbins and Timothy A. Judge (2019), Motivation is a process that explains the intensity, direction, and persistence of a person in his efforts to achieve certain goals. "Robbins and Judge explain that motivation is a drive that makes individuals want to put out the best effort to achieve the desired results, both because of internal factors (intrinsic) such as personal satisfaction and responsibility, as well as external factors (extrinsic) such as awards, salary, and recognition from the organization. Based on the theory of Robbins & Judge (2019) motivation indicators include: Need for Achievement, Need for Affiliation, Need for Power, Direction, Intensity, Persistence, Extrinsic & intrinsic factors.

Research Methodology

In this study, researchers conducted associative research using a quantitative approach. According to Sugiono (2013: 11) associative research is "research that aims to determine the effect or relationship between two or more variables". Quantitative research is a research method based on the philosophy of positivism, used to research on certain populations or samples, data collection using research instruments, quantitative or statistical data analysis, with the aim of testing predetermined hypotheses (Sugiyono, 2017: 8). This research was conducted at this research was conducted at PT. Indojava Agrinusa which is located at Jl. Medan Tanjung Morawa, KM. 12,8. Kel. Bangun Sari, Ujung Serdang, Kec. Tj. Morawa, Kabupaten Deli Serdang, Sumatera Utara. The population of this study is staff at PT. Indojava Agrinusa in division distribution planning amounted to 41 person people. Because the number is <100, the entire population will be sampled in the study.

3.1 Conceptual Framework



3.2 Hypothesis

- 1) H1: It is suspected that Training has a positive and significant influence on Supply Chain Efficiency Strategy at PT. Indojaya Agrinusa
- 2) H2: It is suspected that Motivation has a positive and significant influence on Supply Chain Efficiency Strategy at PT. Indojaya Agrinusa
- 3) H3: It is suspected that Training and Motivation simultaneously have a positive and significant influence on Supply Chain Efficiency Strategy at PT. Indojaya Agrinusa

Sources of data used in this study, namely:

a. Primary Data

Primary data is data obtained from respondents through questionnaires and also data from researcher interviews with sources. The data obtained from this primary data must be reprocessed.

b. Secondary Data

According to Kuncoro (2019: 148) "secondary data is data that has been collected by data collection agencies and published to the data user community". Secondary data can be in the form of evidence reports and records that have been arranged in archives that cannot be published and can be published.

Arikunto (2016: 24), explains that data collection techniques or instruments are tools selected and used by researchers in data collection activities so that their work becomes easier and gets better results. Data collection techniques using questionnaires and measured using a Likert scale. The data analysis in this study consists of several stages, namely: hypothesis testing which consists of: (partial t test, simultaneous f test, coefficient of determination and multiple linear regression analysis). Data processing in this study using the SPSS program.

Results

The results of the Training and Motivation Test as an independent variable, then the Supply Chain Efficiency Strategy variable as the dependent variable as can be presented in the following table:

4.1 Validity Test

a. Validity of Training

Table 2. Validity of Training

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted

VAR00001	112,6000	307,800	,549	,975
VAR00002	112,6000	307,800	,643	,973
VAR00003	112,4000	303,300	,571	,974
VAR00004	112,4000	303,300	,771	,975
VAR00005	112,4000	303,300	,635	,974
VAR00006	112,6000	298,800	,682	,975
VAR00007	112,4000	300,300	,628	,973
VAR00008	113,0000	296,000	,545	,972
VAR00009	112,6000	285,800	,667	,972
VAR00010	112,6000	307,800	,643	,973

b. Validity of Motivation

Table 3. Validity of Motivation

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	98,2400	508,357	,864	,983
VAR00002	98,2000	512,083	,851	,984
VAR00003	98,2000	508,500	,755	,983
VAR00004	98,3200	508,977	,767	,983
VAR00005	98,2000	512,000	,553	,984
VAR00006	98,4000	512,333	,553	,984
VAR00007	98,2800	513,043	,743	,984
VAR00008	98,2800	508,627	,766	,983
VAR00009	98,2000	515,250	,616	,984
VAR00010	97,9200	514,827	,627	,984
VAR00011	98,2000	508,230	,652	,982
VAR00012	98,2000	513,550	,650	,982

c. Supply Chain Efficiency Strategy

Table 3. Validity of Supply Chain Efficiency Strategy

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	106,0000	1189,000	,723	,992
VAR00002	105,8000	1210,700	,747	,992
VAR00003	105,8000	1210,700	,547	,995
VAR00004	105,8000	1188,200	,548	,995

VAR00005	106,0000	1196,500	,428	,991
VAR00006	106,0000	1196,500	,441	,991
VAR00007	106,6000	1191,300	,657	,994
VAR00008	106,4000	1213,300	,617	,994
VAR00009	105,8000	1233,700	,524	,991
VAR00010	105,8000	1233,700	,524	,991
VAR00011	106,2000	1197,200	,541	,992
VAR00012	106,2000	1196,500	,545	,992
VAR00013	106,4000	1196,500	,527	,994
VAR00014	105,8000	1233,700	,527	,994

Based on the Validity Test table above, the SPSS *output* results show that all variables show a *Cronbach's Alpha* value of > 0.30 so it can be concluded that the questions that have been presented to respondents are valid.

4.2 Reliability Test

Table 4. Reliability

Variable	Cronbach's alpha	N of items
Training	0,979	10
Motivation	0,985	12
Supply Chain Efficiency Strategy	0,993	14

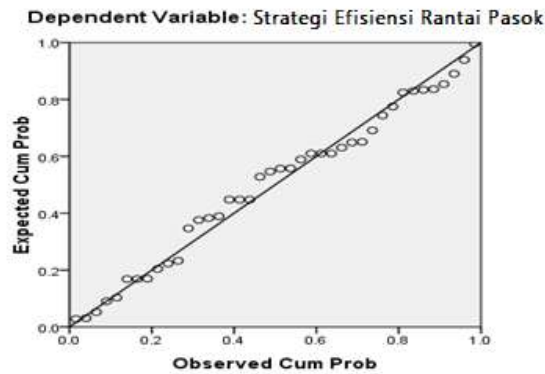
Based on the Reliability Test table above, the SPSS *output* results show that all variables show a *Cronbach's Alpha* value of > 0.60 so it can be concluded that the questions that have been presented to respondents are reliable or said to be reliable.

4.3 Classical Assumption Test

Uji Normalitas Dengan Kolmogorof Smirnov

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		41
Normal Parameters ^a	Mean	.0000000
	Std. Deviation	1.01233153
Most Extreme Differences	Absolute	.079
	Positive	.068
	Negative	-.079
Kolmogorov-Smirnov Z		.500
Asymp. Sig. (2-tailed)		.964
a. Test distribution is Normal.		

Normal P-P Plot of Regression Standardized Residual



Based on the figures and diagrams above, then for the results of testing the normality of the data using the One-Sample Kolmogorov-Smirnov Test, it appears that the data is normally distributed, the *Asymp.Sig* value. (*2-tailed*) is 0.964, this means above the significant value of 0.05 or 5%. Then based on the PP Plot image, it can be seen that the data points spread around the diagonal line so that the data is normally distributed.

Table 5. Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.195	1.536		2.079	.040		
Training	.774	.179	.172	2.267	.010	.536	2.267
Motivation	.316	.165	.628	8.698	.015	.410	2.783

a. Dependent Variable: Supply Chain Efficiency Strategy

Based on the table above, it can be seen that all variables show a *Variance Inflation Factor* (VIF) number smaller than 10, so they are free from multicollinearity

4.4 Multiple Linear Regression

Table 6. Multiple Linear Regression

Coefficients ^a			
	Unstandardized Coefficients	Std. Error	Standardized Coefficients
(Constant)	3.195	1.536	
Training	.774	.179	.172
Motivation	.316	.165	.628

a. Dependent Variable: Supply Chain Efficiency Strategy

Based on the table, multiple linear regression is obtained as follows

$$Y = 3.195 + 0.774 X_1 + 0.316 X_2 + e.$$

The interpretation of the multiple linear regression equation is:

- If everything in the independent variables is considered zero then Supply Chain Efficiency Strategy (Y) is 3.195.
- If there is an increase in Training by 1 (one) unit, then Supply Chain Efficiency Strategy (Y) will increase by 0.774 or 77.4%.
- If there is an increase in Motivation by 1 (one) unit, then Supply Chain Efficiency Strategy (Y) will increase by 0.316 or 31.6%.

4.5 Partial Significance Test

Table 6. Partial Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.195	1.536		2.079	.040		
Training	.774	.179	.172	2.267	.010	.536	2.267
Motivation	.316	.165	.628	8.698	.015	.410	2.783

a. Dependent Variable: Supply Chain Efficiency Strategy

From the table above, the following partial test results can be described as follows:

- Training partially has a positive and significant effect on Supply Chain Efficiency Strategy ($t_{\text{count}} > t_{\text{table}}$), $2.267 > 1.994$ at sig. $0.010 < 0.05$), so the research hypothesis H_1 is accepted.
- Motivation partially has a positive and significant effect on Supply Chain Efficiency Strategy ($t_{\text{count value}} > t_{\text{table}}$), $8.698 > 1.994$ at sig. $0.015 < 0.05$), so the research hypothesis H_2 is accepted.

4.6 Simultaneous Test

Table 7. Simultaneous Test

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1446.434	2	382.145	80.239	.000 ^a
Residual	491.556	37	4.343		
Total	1937.990	39			

a. Predictors: (Constant), Training, Motivation

b. Dependent Variable: Supply Chain Efficiency Strategy

Based on the above, it can be seen that the $F_{\text{count value}}$ is 80.239 while the F_{table} is 4.09 which can be seen at $\alpha = 0.05$ (see attachment F table). The significant probability is much smaller than 0.05, namely $0.000 < 0.05$, so the regression model can be said that simultaneously in this study Training and Motivation has a significant effect on Supply Chain Efficiency Strategy. Then the previous hypothesis is Accept H_a or the hypothesis is accepted.

4.7 Test Coefficient of Determination

Table 8. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.769 ^a	.721	.716	2.311

a. Predictors: (Constant), Training, Motivation

b. Dependent Variable: Supply Chain Efficiency Strategy

Based on the table above, it can be seen that the *adjusted R Square* number is 0.721, which can be called the coefficient of determination, which in this case means that 72.1% of Supply Chain Efficiency Strategy can be obtained and explained by Training, Motivation. While the remaining $100\% - 72.1\% = 27.9\%$ is explained by other factors or variables outside the model, Facilities, Inventory, Transportation and others.

Conclusion

The following conclusions can be presented from the research conducted as follows:

- Training partially has a positive and significant effect on Supply Chain Efficiency Strategy at PT. Indojoya Agrinusa ($t_{\text{count}} > t_{\text{(table)}}$ value, $2.267 > 1.994$ at sig. $0,010 < 0,05$).
- Motivation partially has a positive and significant effect on Supply Chain Efficiency Strategy at PT. Indojoya Agrinusa ($t_{\text{(count)}} > t_{\text{table}}$, $8.698 > 1.994$ at sig. $0,015 < 0,05$).
- Training and Motivation simultaneously has a positive and significant influence on Supply Chain Efficiency Strategy at PT. Indojoya Agrinusa, with an F_{count} value of $80.239 > F_{\text{(table)}}$ of 4.09 at sig. $0,000 < 0,05$

The suggestions that can be conveyed, such as:

- PT. Indojoya Agrinusa must transform training from an "administrative obligation" to a "supply chain efficiency lever." Training should be geared toward SCM functional competencies, accompanied by tangible KPI evaluations, integrated with rewards, and involving the entire supply chain ecosystem.
- Improving supply chain efficiency depends not only on systems and technology, but also greatly on the psychological and motivational state of the employees managing the process. Therefore, PT. Indojoya Agrinusa need to prioritize motivational improvement as part of their ongoing supply chain management strategy. Employees who are both intrinsically and extrinsically motivated tend to be more proactive, take initiative in resolving operational challenges, and adhere more closely to product and information flow procedures. This has a direct impact on accelerating distribution processes, reducing operational errors, lowering logistics costs, and improving coordination across supply chain departments.
- Training provides skills, motivation provides encouragement, and both must work together to ensure that supply chain efficiency strategies become not just policy, but the operational culture at PT. Indojoya Agrinusa.

References

- [1] Affandi, N. et al (2024), Penerapan Lean Supply Chain untuk Meningkatkan Efisiensi Rantai Pasok: Studi Kasus Pada Industri Pengolahan Karet. *Jurnal Rekayasa Sistem Industri*, 10(2)
- [2] Chopra, S., & Meindl, P. (2023). *Supply chain management: Strategy, planning, and operation* (8th ed.). Pearson.

- [3] Chopra, S., & Meindl, P. (2019). Supply chain management. Strategy, planning & operation. In *Das Summa Summarum des Management: Die 25 wichtigsten Werke für Strategie, Führung und Veränderung* (pp. 265-275). Wiesbaden: Gabler.
- [4] Christopher, M. (2022). *Logistics and supply chain management* (6th ed.). Pearson
- [5] Fauziah, W., Pratama, S., & Alfahmi, M. (2025). ANALISIS KOMPETENSI, MOTIVASI DAN LINGKUNGAN KERJA TERHADAP KINERJA KARYAWAN DI KISEL GRUP MEDAN. *NUSANTARA: Jurnal Ilmu Pengetahuan Sosial*, 12(8), 3530-3538.
- [6] Lestari, M., Pratama, S., & Ario, F. (2024). The Impact Analysis of Job Satisfaction, Work Motivation, and Loyalty on Performance Improvement at Éclat Beauté House. *International Journal of Global Accounting, Management, Education, and Entrepreneurship*, 4(2), 306-316.
- [7] Putri, A. R. et al (2025), Efisiensi Rantai Pasok Melalui Pelatihan Harga Pokok Produksi: Solusi Bagi UMKM Kelompok Ibu Rumah Tangga. *Jurnal Surya Abdimas*, 9(1), 145-149
- [8] Primadi, A., et al (2023), Kinerja Karyawan pada Suatu Perusahaan Logistik. *Jurnal Humaniora, Ekonomi Syariah dan Muamalah*
- [9] Pratama, S., & Losi, N. T. (2022). The Effect of Work Motivation And Work Discipline On Employee Satisfaction At The Main Branch Office Of Medan 20000 With Loyalty as A Moderating Variable. *Journal of Management and Business Innovations*, 4(02), 63-72.
- [10] Pratama, S., Andika, R., Suwarno, S., & Ramadhani, S. (2024, October). The Analysis of Leadership, Motivation, and Work Environment on Employee Performance at Pt. Medan Distribusindo Raya. In *Proceeding International Conference on Malay Identity* (pp. 184-193).
- [11] Tjiptono, F., & Diana, A. (2019). *Total quality management* (Ed. Revisi). Andi.
- [12] Zhang, H., Liu, S., & Wang, Y. (2023). *The role of human resource practices in supply chain efficiency: Evidence from logistics firms in Asia*. *International Journal of Logistics Management*, 34(1), 78–99. Emerald Publishing. <https://doi.org/10.1108/IJLM-02-2022-0054>
- [13] Zhou, Q., & Li, X. (2022). *Dynamic capabilities and supply chain strategy: Achieving efficiency and resilience*. *Journal of Business Research*, 139, 602–613. Elsevier. <https://doi.org/10.1016/j.jbusres.2021.10.018>