



Supplier Relationship Performance Measurement Model: a Case Study in a Service Company

Asih Ahistasari, Elisa Kusrini, Aprisa Rian Histiari,
Siti Nur Kayatun and Masniar Masniar

EasyChair preprints are intended for rapid dissemination of research results and are integrated with the rest of EasyChair.

August 3, 2023

Supplier relationship performance measurement model: a case study in a service company

Asih Ahistasari ^{1*}, Elisa Kusrini ², Aprisa R. Histiari ³, Siti N. Kayatun ⁴, Masniar ⁵

^{1,3,4,5} Universitas Muhammadiyah Sorong; email: asih@um-sorong.ac.id, aprisa@um-sorong.ac.id, sitinur9@um-sorong.ac.id, hajiniar92@gmail.com

² Universitas Islam Indonesia; email: elisakusrini@uii.ac.id

* *Corresponding author*

Abstract

The effectiveness of supply chain performance is strongly influenced by the close relationship between the company and its suppliers. A strong relationship between suppliers and buyers will have a positive impact, especially in achieving company targets. this relationship needs to be measured and monitored equally by the buyer and supplier. The supplier relationship performance measurement (SRPM) model is a model to measure the performance of relationships between companies and their suppliers, which is still rarely done, especially for the service industry. Therefore, in this study SRPM models and measurements for the service industry will be proposed. a case study conducted at one of the consulting companies in Indonesia. SRPM indicators are identified from literature studies and interviews with experts. From these results 18 valid SRPM model indicators were obtained and then SRPM measurements were carried out to find out which SRPM indicators needed improvement. Measurements were taken both at the company (buyer) and the supplier. From the measurement results it is found that the indicators of responsiveness and services have the highest value in the relationship between buyers and suppliers. The next research opportunity is how to improve the relationship between buyer supplier strategies in the SRPM model.

Keywords: supply chain management, key performance indicator, supplier relationship, performance measurement, supplier relationship management

1. Introduction

The supply of goods and services has become one of the strategic issues in business that the competition increases every year, so companies are demanded to be able to provide goods and services quality, timeliness and cost efficient on an ongoing basis (Amanda and Anwar, 2018). Managing supply chains effectively can reduce risk and uncertainty, as well as increase inventory levels and production cycle times, leading to customer satisfaction and profitable achievements, this is the reason why supply chain management efficiency has an important role in the competitiveness of companies (Tran, 2015). Many factors are considered and influence a company in the process of procuring goods and or services, including the supplier or supplier/vendor selection process, in the business-to-business context and helping to build buyer-supplier relationships, such as customer satisfaction, reliability, and product-related performance (Kurniawan et al., 2017; Rajagopal and Rajagopal, 2009). Supplier selection and evaluation have a long-term impact on a company's ability to respond customer need effectively (Cerna and Bukova, 2016; Lima and Carponetti, 2016).

Key elements of the buyer and supplier relationship include long-term relations, communication, and supplier integration (Rajagopal and Rajagopal, 2009). A strong

relationship between buyer and supplier is known to contribute significantly to business by reducing risk in an exchange relationship (Lombard et al., 2017). Buyers engage with suppliers through a contract approach, use cost-based negotiations, and maintain good relationships with suppliers (Asif et al., 2019). In addition, a strong relationship with suppliers allows buyers to gain access to critical resources that would be impossible without this partnership being established (Amoako-Gyampah et al., 2018). Cooperation relationships with other companies to achieve common goals, so the cooperative relationship can obtain resources, recognition, and appreciation when facing competition with other organizations (Liao et., 2017). Discontinued of cooperation between companies occurs due to lack of trust, even though trust is one of the key components in building relationships (Lombard et al., 2017).

It is important to measure the performance of the relationship between buyers and suppliers to maintain a long-term relationship in the business. But until now the SRPM research model is still very limited, especially SRPM in the service industry. Therefore, in this research, the SRPM model in the service industry will be examined and proposed. The SRPM model is done by identifying Key Performance Indicators in the relationship between buyer and supplier. These KPIs were identified from literature studies and interviews. A case study in the consulting services industries was carried out by measuring the level of relationship between the consulting (buyer) and its main supplier, namely the hotel. The SRPM measurement results are expected to be used as input in improving and enhancing the relationship between buyers and suppliers.

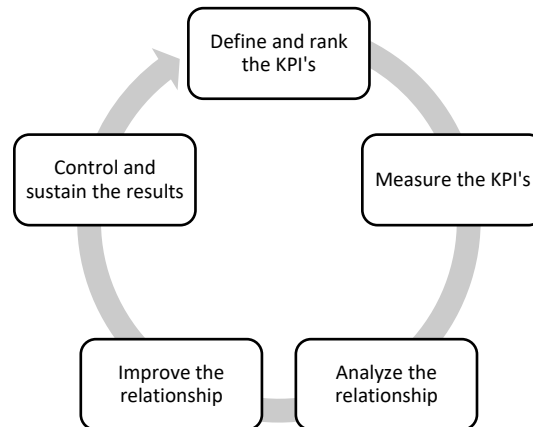
1.1. Supplier Relationship Management (SRM)

Supply chain management has been widely recognized as an important contributor to strategic success that helps companies to meet increasingly competitive and dynamic challenges (Cousins et al., 2008). Supply chain is generally defined as the physical network of material and information flow activities in the company. Activities in the supply chain start from the selection of raw materials, production processes, and delivery with the aim to gain profit, service and customer satisfaction (Chae, 2009; Aramyan et al., 2007). The purpose of supply chain management is to improve the performance of suppliers and buyers and establish the best relationships in long term (Taherdoost and Brard, 2019). To achieve SCM objectives, the relationship between the company and its suppliers needs to be improved. Supplier Relationship Management is the management of relationships between supply chain actors and is one of the important aspects of supply chain management (Tidy et al., 2015). Through this SRM, buyers and suppliers seek competitive advantage in the market, by utilizing each other's resources as a result of collaboration (Amoako-Gyampah et al, 2018). SRM is a set of methodologies that require the practice of interacting with suppliers to increase the profitability of the company, as a means to build closer relationships with selected suppliers, as well as create new, more profitable income between suppliers and buyers. SRM focuses on the interactive aspects between suppliers and buyers as well as the benefits of improved performance in the organization (Tran, 2015). A strong relationship between suppliers and buyers has an important role in sharing information in the supply chain (Yang et al., 2017).

1.2. Supplier Relationship Performance Measurement

Supplier relationship performance measurement needs to be done so that each can know which activities need to be improved in improving relations. Performance measurement is

done by identifying key performance indicators of satisfaction for buyers and suppliers. The stages of measurement are done in five steps, namely: Define and rank the KPI's, Measure the KPI's, Analyze the relationship, Improve the relationship and Control and sustain the results, as illustrated in Figure 1 (Damlin et al., 2012). The definition stage must be carried out together with the supplier because it is important to use the same KPI in a relationship. These KPIs are measured in numerical form or in the form of scale / ranking that describes both qualitative (for example customer satisfaction) and quantitative measurements (for example, investment returns) (Widyaningrum, 2018; Aramyan et al., 2006).



Source: 2012. Measuring Buyer-Supplier Relationship Performance

Figure 1. Stages for SRPM

The various KPIs obtained from various literatures to measure the performance of buyer supplier relationships are as follows:

- 1) Commitment: the success of a relationship is determined by commitment. Commitment is an investment to improve relations with suppliers (Raharjo, 2013; Kumalaningrum, 2012).
- 2) Quality and Quantity Conformity: supplier's ability to consistently meet quality and quantity specifications which include quality, features (material, dimensions, design, durability), variety, production quality (production line, machine engineering), quality system, and continuous improvement (Taherdoost Brard, 2019).
- 3) Partner compatibility: the relationship of interdependence between suppliers and buyers, showing the extent to which the match is established, special investments offer tangible evidence that a partner or partner can be trusted, care and understand about a business relationship, and willing to sacrifice in terms of investment, can lead on increasing trust and relationships (Raharjo, 2013; Sarang et al., 2018).
- 4) Price Suitability: price is the amount of money billed for a product or service. In supply chain management practices, suppliers have an influence on several aspects of competitive advantage such as price level (Ghanimata and Kamal, 2012; Anata, 2010).
- 5) Ease of Information and Communication: the exchange of information as a medium of communication between suppliers and buyers is a fundamental thing that affects every part in the activities of relationship performance in supply chain management, communication and effective information sharing between suppliers and buyers is directed to minimize misunderstanding and clarity of purpose in information disclosure (Pramudita and Dwiyanto, 2017; Sarang et al., 2018).

- 6) Innovation Development: positive and significant influence shows that there is a good relationship in the purchasing process between the company and suppliers, will improve the quality of raw materials, expedite the production process, enhance the ability to develop company innovation, and increase competitiveness, collaboration through information sharing has a positive influence on supply chain innovation (Rudyanto, 2011; Kumalaningrum, 2012).
- 7) Guarantee and Claim Policy: the superiority of the specified written guarantee that promises to repair or replace the product if needed within a certain period of time and also the policy of the claim as an official request for coverage or compensation for losses incurred (Taherdoost and Brard, 2019).
- 8) Trust: In a supply chain environment, the involvement of different companies also relies on trust and visibility. The emergence of trust in using services, can provide benefits for the company (Chan, 2003; Ahistasari et al., 2023).
- 9) Process Integrity: the integration of processes with specific suppliers will improve the company's competitive position. with this integration it will build long-term, customized relationships, and make cooperative agreements. good process integration has significant results and has a positive impact on supply chain performance in business and will minimize the risk of uncertainty experienced by business people (Pramudita and Dwiyanto, 2017; Kumalaningrum, 2012).
- 10) Reliability: supplier quality can be trusted and reliable based on references (buyer feedback), financial stability (capital, annual turnover), past and current business partners, company organizations and personnel, diversity of ownership, and cultural awareness (Taherdoost and Brard, 2019).
- 11) Responsiveness: assessing suppliers in terms of the ability to respond to problems and requests of buyers, customer relations practices also have an influence on the company's responsiveness to consumer needs (Mauudzoh and Zabidi, 2007; Anata, 2010).
- 12) Relationships: the importance of maintaining buyer and supplier relationships will have an impact on the quality of products and services provided so that it has an impact on improving quality and future relationships (Soediro, 2017).
- 13) Service: supplier's ability to provide intangible products including customization (size, shape, color, design, OEM, label service), minimum order quantities, communication (response time, information, language), industry knowledge, flexibility, and response to change (Taherdoost and Brard, 2019). The existence of good service quality management will be able to provide satisfaction to customers which will certainly have a positive impact on the company (Febriyanti et al, 2022).
- 14) Flexibility: flexible systems are needed to support the introduction of new products and focus on innovative service changes that aim to achieve targets (Chan, 2003).
- 15) Attitude: supplier attitudes when you deal with them such as politeness and confidence (Taherdoost and Brard, 2019).
- 16) Professional (Professionalism): supplier competencies or skills are expected from a professional (Taherdoost and Brard, 2019).
- 17) Coordination: coordination in a relationship will be present when both parties understand the act of exchange, empowering them to believe that the formation of interaction is a possibility (Lombard et al., 2017).

- 18) Continuity: continuous and long-term cooperative relations between suppliers and buyers can improve technical capabilities, disseminate information and knowledge, maintain quality, delivery, and price / cost suitability, and improve efficiency (Sarang et al., 2018; Kumalaningrum, 2012).

2. Method

The development and measurement of the SRPM model are carried out in the following steps:

- 1) Identification of SRPM KPIs from expert studies and interviews with experts. Experts are professionals who have been involved in SRM activities for more than 5 years from buyers and suppliers.
- 2) Validate the SRPM using the Aramyan method [13], Namely by asking experts to rank the KPI with a Likert scale (1 = strongly disagree to 5 = strongly agree KPI is used to measure the relationship in SRPM).
- 3) Measuring the value of SRPM to buyers and suppliers with value from 1 (not very good) to 5 (very good).
- 4) Analyze and draw conclusions.

Data was collected by conducting field observations, interviews and filling out questionnaires. Respondents are procurement employees from the buyer and marketing employees from the supplier company.

3. Result and Discussion

This research took a case study at one of the providers of training and consulting services in Indonesia. The company is a provider of training and consulting services for companies both government companies, national and multinational private companies. The number of clients who use training services is more than 800 large companies in Indonesia. Training provided in various fields including Human Resources & Development, Business & Management, Engineering, Oil & Gas, Electricity & Energy, Information Technology, Finance, Law, and others. In organizing the training, the company cooperates with one of the five-star hotels that provide space, training logistics and consumption for training participants. in this context, training service companies are buyers, hotels are suppliers.

- 1) Identification of SRPM KPIs

Based on literature studies, there were 18 KPIs to measure SRPM as presented in the literature study. Table 1 below lists the defining criteria of SRPM.

Table 1. Criteria of SRPM KPIs

No	Criteria
1	Commitment
2	Quantity and Quality Conformity
3	Partner Compatibility
4	Price Suitability
5	Ease of Information and Communication
6	Innovation Development
7	Guarantee and Claim Policy

No	Criteria
8	Trust
9	Process Integrity
10	Reliability
11	Responsiveness
12	Relationship
13	Service
14	Flexibility
15	Attitude
16	Professionalism
17	Coordination
18	Continuity

2) Validate The SRPM

To find out whether 18 criteria are considered good for measuring SRPM performance, a questionnaire was distributed to 10 respondents (5 buyer respondents, 5 Supplier respondents) to assess whether KPIs are valid, table 2 results from respondents' ratings with the aramyan's method to get valid answers in retrieving questionnaire data. Data will be declared valid if the results given are more than 3. From these results it was concluded that respondents from Buyer and Supplier agreed to 18 criteria to be used as an assessment of the relationship between suppliers and buyers.

Table 2. Results of the inter-company criteria assessment

No	Criteria	Supplier to Buyer	Buyer to Supplier
1	Commitment	4	4
2	Quantity and Quality Conformity	5	5
3	Partner Compatibility	5	4
4	Price Suitability	4	4
5	Ease of Information and Communication	5	4
6	Innovation Development	4	4
7	Guarantee and Claim Policy	4	4
8	Trust	4	5
9	Process Integrity	4	4
10	Reliability	4	5
11	Responsiveness	4	5
12	Relationship	5	5
13	Service	4	5
14	Flexibility	4	5
15	Attitude	4	5
16	Professionalism	4	5
17	Coordination	5	5
18	Continuity	5	5

The results in table 2, state that the 18 data criteria are valid, and these results can be used for further questionnaire data retrieval.

3) Measuring The Value of SRPM

The next step is to measure SRPM on buyers and suppliers with the results of table 3.

Table 3. Results of SRPM

No	Criteria	Supplier to Buyer	Buyer to Supplier
1	Commitment	4	4
2	Quantity and Quality Conformity	4	4
3	Partner Compatibility	4	4
4	Price Suitability	4	4
5	Ease of Information and Communication	4	4
6	Innovation Development	4	4
7	Guarantee and Claim Policy	4	4
8	Trust	4	4
9	Process Integrity	4	4
10	Reliability	4	4
11	Responsiveness	4	5
12	Relationship	4	4
13	Service	4	5
14	Flexibility	4	4
15	Attitude	4	4
16	Professionalism	4	4
17	Coordination	4	4
18	Continuity	4	4

Table 3 describes the performance appraisal given by the supplier to the buyer and vice versa. Performance evaluation scale is given based on the description of scale 1 is not very good, 2 is not good, 3 is good enough, 4 is good, and 5 is very good. In table 3, it can be seen that the supplier gives a value of 4 or good to the buyer for all the criteria mentioned, while the assessment of the buyer to the supplier is given a value of 4 or good for 16 criteria's and 5 or very good, for 2 criteria's, namely responsiveness and service.

4) Analyze and Draw Conclusions

After the assessment or weighting is completed, then a quadrant of the supplier performance satisfaction assessment is made to the buyer and vice versa an example of the assessment with the quadrant can be seen in figure 2 below. Quadrant assessment is used to see the level of satisfaction between suppliers and buyers. Based on the results of the assessment in table 3 and the quadrant of the assessment, it is known that the horizontal line is the assessment of the supplier to the buyer and the vertical line as the assessment of the buyer to the supplier, the assessment can be seen in figure 2 below.

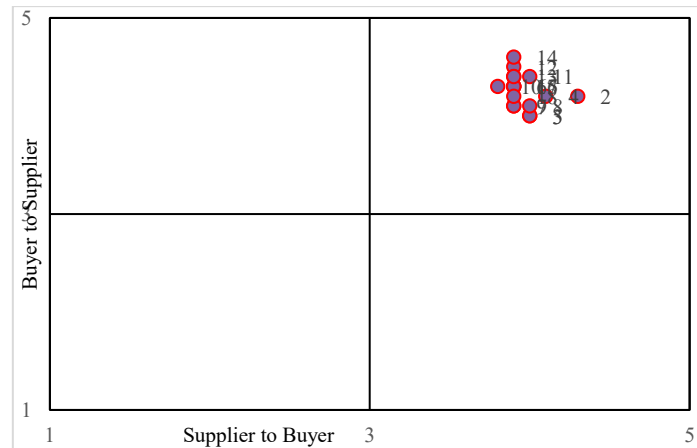


Figure 2. The supplier-buyer performance satisfaction evaluation quadrant

There are 4 quadrants of assessment to determine performance satisfaction among companies. All of the criteria mentioned above, meet the criteria desired by both supplier companies to buyers and buyers to suppliers. In figure 2, all the criteria are included in the assessment of inter-company performance satisfaction. The quadrant shows that inter-company assessments consist of satisfaction (increasingly right and up) and dissatisfaction (progressively left and down). With a rating scale of 1 to 5, the assessment is in quadrant A, such the supplier is satisfied with the buyer's performance, as well as the buyer who is also satisfied with the performance given by the supplier. These results are in line with other studies (Maestrini et al., 2018; Arin et al., 2013). The service aims to regulate relations between the two parties by expecting both parties to monitor each other's performance, and responsiveness refers to the ability or speed of action in responding to problems and requests. In this study, service and responsiveness have the highest satisfaction value as KPIs to evaluate the performance of a relationship.

4. Conclusion

In this study, there are 18 criteria to determine the KPI of the two companies, after took data and then processing it turns out that all the criteria are included in the category for performance evaluation of the relationship between the two companies. The criteria assessed are commitment, quality and quantity suitability, partner compatibility, price suitability, ease of information and communication, innovation development, guarantees and policies, trust, process integrity, reliability, responsiveness, relations, service, flexibility, attitude, professional, coordination, and continuation. The assessment is given by suppliers to buyers and otherwise shows satisfaction with the performance of each company. Of the 18 criteria, the assessment given by the supplier to the buyer is 4, while the rating given by the buyer to the supplier is 4 for 16 criteria and 5 for responsiveness and service. Criteria of service and responsiveness explain that responsiveness and service have the highest value in a business relationship. A value of 5 indicates a very good value regarding buyer satisfaction with the service and responsiveness provided by the supplier. Assessing each other between suppliers and buyers is done to find out how well the company's performance in business relations. The quadrant showed the level of satisfaction of both companies. So the final result that can be concluded from the discussion above is that both companies have good value in all business relationships.

References

- Ahistasari, A., Histiari, A. R., & Sarfunin, N. Y. (2023). Analisis kepuasan konsumen terhadap pengaruh kualitas pelayanan di rh soq. *Metode: Jurnal Teknik Industri*, 9 (1), 48-57.
- Amanda, L., & Anwar, R. (2018). Analisis pengaruh buyer-supplier relationship terhadap kualitas dan total biaya barang direct pada perusahaan dealer alat berat: studi kasus pada pt. x. *Jurnal Manajemen Bisnis Indonesia*, 5(2), 261 – 275.
- Amoako-Gyampah, K., Boakye, K. G., & Famiyeh, E. A. S. (2018). Supplier relationship management and firm performance in developing economies: a moderated mediation analysis of flexibility capability and ownership structure. *International Journal of Production Economics*. 208(2), 160 – 170.
- Anata, L. (2010). Effect of supply chain management practices on supply chain performance and competitive advantage. *Jurnal Karisma*, 4(2), 106 – 117.
- Aramyan, L. H., Ondersteijn, C., Kooten, O., Vorst, V., & Lansink, A. O. (2006). (Cited: 29 Januari 2020). Performance indicators in agri-food production chains. Available at: https://www.researchgate.net/publication/40115241_Performance_indicators_in_agri-foodproduction_chains
- Aramyan, L. H., Alfons, G. J. M., Lansink, O., Jack, G. A. J., Vorst, V., & Kooten, O. (2007). Performance measurement in agri-food supply chains: case study. *An International Journal of Supply Chain Management*, 12(4), 304 – 315.
- Arin, R. D. N., Astuti, R., & Ikasari, D. M. (2013). Penilaian kinerja pemasok susu segar menggunakan metode analytic network process dan rating scale: studi kasus di pusat koperasi industri susu ekar tanjung pasuruan. *Jurnal Teknologi Pertanian*, 14(2), 131 – 140.
- Asif, M., Jajja, M. S. S., & Searcy, C. (2019). Social compliance standards: re-evaluating the buyer and supplier perspectives. *Journal of Cleaner Production*, 227(4), 457 – 471.
- Cerna, L., & Bukova, B. (2016). Supplier evaluation methodology in the logistics company. *9th International Scientific Conference Transbaltica 2015*, 134(3), 377 – 385.
- Chae, K. B. (2009). Developing key performance indicators for supply chain: an industry perspective. *An International Journal of Supply Chain Management*, 14(6), 422 – 428.
- Chan, F. T. S. (2003). Performance measurement in a supply chain. *The International Journal of Advanced Manufacturing Technology*. 21(2), 534 – 548.
- Cousins, P. D., Lawson, B., & Squire, B. (2008). Performance measurement in strategic buyer-supplier relationships. *International Journal of Operations & Production Management*. 28(3), 238 – 258.
- Febriyanti, P. I., Wahyudien, M. A. N., Kusrini, E., Ahistasari, A., & Siswanto. (2022). Analisa proses pelayanan jastip dengan metode servqual. *Industrial Engineering Journal – System (IEJS)*, 1(1), 1-10.
- Ghanimata, F., & Kamal, M. (2012). Analisis pengaruh harga, kualitas produk, dan lokasi terhadap keputusan pembelian. *Diponegoro Journal of Management*, 1(4), 13 – 22.
- Kumalaningrum, M. P. 2012. Peran relasi antara perusahaan dan pemasok dalam proses pembelian bahan baku di bisnis kecil. *JRMB*, 7(2), 83 – 96.
- Kurniawan, R., Hasibuan, S., & Nugroho, R. E. (2017). Analisis kriteria dan proses seleksi kontraktor chemical sektor hulu migas: aplikasi metode delphi – ahp. *MIX: Jurnal Ilmiah Manajemen*. 7(2), 252– 266.

- Liao, S. H., Hu, D. C., & Ding, L. W. (2017). Assessing the influence of supply chain collaboration value innovation, supply chain capability and competitive advantage in taiwan's networking communication industry. *International Journal of Production Economics*, 191(2), 143 – 153.
- Lima, R., & Carponetti, L. C. R. (2016). Combining scor model and fuzzy topsis for supplier evaluation and management. *International Journal Production Economics*, 174(2), 128–141.
- Lombard, M. R., Mpinganjira, M., & Svensson, G. (2017). Antecedents and outcomes of satisfaction in buyer-supplier relationships in south africa: a replication study. *South African Journal of Economic and Management Sciences*, 20(1), 1 – 14.
- Mauidzoh, U., & Zabidi, Y. (2007). Perancangan sistem penilaian dan seleksi supplier menggunakan multi kriteria. *Journal Ilmiah Teknik Industri*, 5(3), 113 – 122.
- Pramudita, A. P., & Dwiyanto, B. M. (2017). Faktor-faktor yang mempengaruhi kinerja hubungan pemasok dan pembeli serta dampaknya terhadap keunggulan bersaing pada bisnis skala mikro penyedia makanan dan minuman di kawasan undip tembalang. *Diponegoro Journal of Management*, 6(3), 1 – 14.
- Raharjo, S. T. (2013). Analisis kinerja hubungan pemasok-pembeli studi hubungan ukm industry furnitur-eksportir furnitur di jepara. *Journal and Proceeding FEB ONSOED*, 3(1), 1 – 11.
- Rajagopal, & Rajagopal, A. (2009). Buyer – supplier relationship and operational dynamics. *The Journal of the Operational Research Society*, 60(3), 313 – 320.
- Rudyanto. (2011). Pengaruh manajemen rantai pasok inovasi terhadap kinerja organisasi. *Journal of Industrial Engineering & Management Systems*, 43(1), 43 – 57.
- Sarang, J. P., Pankaj, S. C., Rajendra, & Joshi, P. P. (2018). Strategies for buyer supplier relationship improvement: scale development and validation. *2nd International Conference on Materials Manufacturing and Design Engineering*. 20(2), 470 – 476.
- Soediro, M. (2017). Analisis pengaruh top management commitment terhadap supplier performance dan supplier relationship management pada hotel budget di Surabaya. *Jurnal Ilmiah Manajemen dan Akuntansi Ekonomika'45*, 4(2), 1 – 12.
- Taherdoost, H., & Brard, A. (2019). Analysing the process of supplier selection criteria and methods. *The 12th International Conference Interdisciplinarity in Engineering*, 32(2), 1024 – 1034.
- Tidy, M., Wang, X., & Hall, M. (2015). The role of supplier relationship management in reducing greenhouse gas emissions from food supply chains: supplier engagement in the uk supermarket sector. *Journal of Cleaner Production*, 112(2), 3294 – 3305.
- Tran, T. H. (2015). A case study of integrative creation of supplier relationship management process. *Vantaa: Information and Service Economy Spring 2015*.
- Widyaningrum, D. (2018). Key performance indicators on vannamei shrimp supply chain performance (a preliminary research). *1st International Conference on Engineering and Applied Technology (ICEAT)*, 408(1), 1 – 8.
- Yang, Z., Zhang, H., & Xie, E. (2017). Relative buyer–supplier relational strength and suppliers information sharing with the buyer. *Journal of Business Research*, 78(2), 303 – 313.