

Measuring Company Performance Based on Balanced Scorecard and Determination of Analytical Hierarchy Process Priority in CV. Pujon Ramie Lestari

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Abstract

The Balanced Scorecard has been widely applied to large and small companies in measuring company performance from financial and non-financial aspects, so the purpose of the research is to measure company performance as a whole using the Balanced Scorecard as a performance measurement on the CV. Pujon Ramie Lestari will be combined with prioritization using the Analytical Hierarchy Process. Measurement of the priority weights of CV. Pujon Ramie Lestari will be measured using the AHP method. Data collection in this research was carried out by interviews and questionnaires which would be processed using the AHP method. The results show that the perspective that has the highest weight with the most important priority is the internal business process perspective with good enough performance indications, the second priority is the customer perspective with good enough performance indications, the third priority is the learning and growth perspective with sufficient performance indications, and the last priority is the learning and growth perspective.

Keywords — *Balanced Scorecard, Analytical Hierarchy Process, Performance Measurement*

Abstrak

Metode *Balanced Scorecard* telah banyak di terapkan pada perusahaan besar maupun kecil dalam pengukuran kinerja perusahaan dari aspek financial maupun nonfinancial, maka penelitian ini bertujuan untuk mengukur kinerja perusahaan secara menyeluruh menggunakan metode *Balanced Scorecard* sebagai pengukuran kinerja pada CV. Pujon Ramie Lestari yang akan dikombinasikan dengan penentuan prioritas menggunakan metode *Analytical Hierarchy Process* (AHP) Pujon Rami Lestari akan diukur menggunakan perhitungan metode AHP. Pengumpulan data pada penelitian ini dilakukan dengan wawancara dan kuisioner yang akan diolah menggunakan metode AHP. Hasil penelitian menunjukkan perspektif yang memiliki bobot tertinggi dengan prioritas paling penting yaitu perspektif proses bisnis internal dengan indikasi kinerja cukup baik, prioritas kedua yaitu perspektif pelanggan dengan indikasi kinerja cukup baik, prioritas ketiga yaitu perspektif pembelajaran dan pertumbuhan dengan indikasi kinerja cukup, dan prioritas terakhir dengan bobot terendah yaitu perspektif keuangan dengan indikasi kinerja cukup.

Kata kunci: *Balanced Scorecard, Analytical Hierarchy Process, pengukuran kinerja*

Article info

Received (25/05/2022)

Revised (15/06/2022)

Accepted (30/06/2022)

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INTRODUCTON

Economic growth in Indonesia increased in the last quarter of 2021 which previously experienced pressure due to Covid-19 which was explained in the February 2021 economic report for East Java province by Bank Indonesia. The increase in the economy in Indonesia was driven by increased performance in exports, consumption, households, investment, and government consumption. This increase makes the business competition climate more competitive in various aspects, both production, marketing, human resource management, as well as varied transaction handling in order to maintain the company's economy. Competitive business competition is also felt in the textile industry sector, although the growth of the textile and clothing industry experienced minus 8.8% on an annual basis in 2020 which was recorded in the Central Statistics Agency in June 2020.



Figure 1. Shows The Pace of The Textile Industry Source: Ministry of Industry (2020)

Figure 1 shows the pace of the textile industry, which initially increased from 2017 to 2019 and increased to a decline in 2020. The decline occurred due to contraction in the previous year, one of which was decreased demand due to changes in public demand. Exports to the textile and clothing industry also experienced a decline of up to 17% in 2020. The decline in the textile industry was not only a result of changes in public demand but was also affected by competitive activities with foreign products. Foreign companies provide products at low prices, so people prefer foreign products to domestic products.

Changes in business competition in production, marketing, and human resource management have made measuring company performance important for management to evaluate company performance and plan future goals. Good performance can improve the control of a company, but the implementation of the procedures applied are often not in accordance with the company's performance and the duties and responsibilities of the company. Performance measurement generally only shows the financial aspect in measuring performance, but measuring the performance of the financial aspect only provides short-term financial results so it is not sufficient to measure the overall performance of a company. Companies with global businesses need planning strategies to develop potential that can compete in a competitive business competition. The competitive business environment demands performance measurement in terms of non-financial aspects.

The balanced scorecard is a contemporary management tool that translates the company's mission and strategy into a comprehensive set of measures and provides a framework for measurement and strategic management systems (Kaplan and Norton, 2000). The objectives of the Balanced Scorecard are derived from the company's vision and strategy, objectives, and performance

measures from four perspectives. Measurement of company performance plays an important role in determining the success of the company, if an organization cannot achieve its target, the first indication is that the strategy implemented has not been running properly. Decision makers in measuring company performance and the level of success in achieving performance and make decisions objectively based on multi-criteria (Marsono, 2020).

Based on research that proves that performance measurement using the Balanced Scorecard is feasible to be applied to large, medium, and small organizations as in the research conducted by Panudju *et al.* (2016) about measuring company performance using the Balanced Scorecard with weighting Analytical Hierarchy Process at PT. ABC, Tbk shows the results in their research that performance measurement on internal business process indicators is the most important perspective compared to other perspectives, this shows that internal business processes have the highest weight in calculations using the AHP method. Research conducted by Rusli *et al.* (2019) regarding the performance measurement of the company's performance measurement of PT. Greeneration Indonesia uses the Balanced Scorecard and Analytical Hierarchy Process. Showing research results from the customer perspective has the highest priority weight compared to other perspectives. The two studies prove that every company has differences in the measurement and assessment of company performance priorities, so the Balanced Scorecard is used as a breakthrough and innovation that helps companies excel and be creative to improve company performance. Realizing the importance Balanced Scorecard in accordance with the management needs of companies engaged the in industry, the authors try to examine the performance of textile industry companies in Malang.

One of the companies engaged in the textile industry for making yarn in the Malang district, located in the Pujon district, is the only company that produces hemp yarn in Malang Regency. So far, companies in measuring company performance use traditional methods, namely measuring performance based on financial aspects only. Performance measurement based on nonfinancial has never been done. Improving the financial performance of this company is preferred. It is hoped that the company will be able to recognize and understand the assessment of performance measures from various aspects and the measurement methods applied. Performance measurement on the CV. Pujon Rami Lestari was conducted to measure the company's performance with the Balanced Scorecard method where this method will be applied to performance measurement indicators from the financial perspective, customers, internal business processes, as well as learning and growth as well as determining priorities from the four perspectives with the AHP method. The next step is that the company can determine the performance and fulfill the company's vision and mission, so this study takes the title "Measuring Company Performance Based Balanced Scorecard and Determining Priority Analytical Hierarchy Process on CV. Pujon Rami Lestari".

LITERATURE REVIEW

According to Armstrong (2004), performance management is a means to get better results from organizations, teams, and individuals by understanding and managing performance within a framework of agreed goals, standards, and requirements. Wibowo (2007) defines performance management as a management style in managing performance-oriented resources that carries out an open and sustainable communication process and creates a vision and strategy as a driving force to achieve organizational goals. Measurement is a formal and structured system that measures, assesses, and influences work-related traits, behaviors and attendance outcomes. According to Mulyadi (2007), the main purpose of performance measurement is to motivate employees in achieving organizational

goals and in meeting the standards of behavior assessment applied in order to produce the desired actions and results of the company.

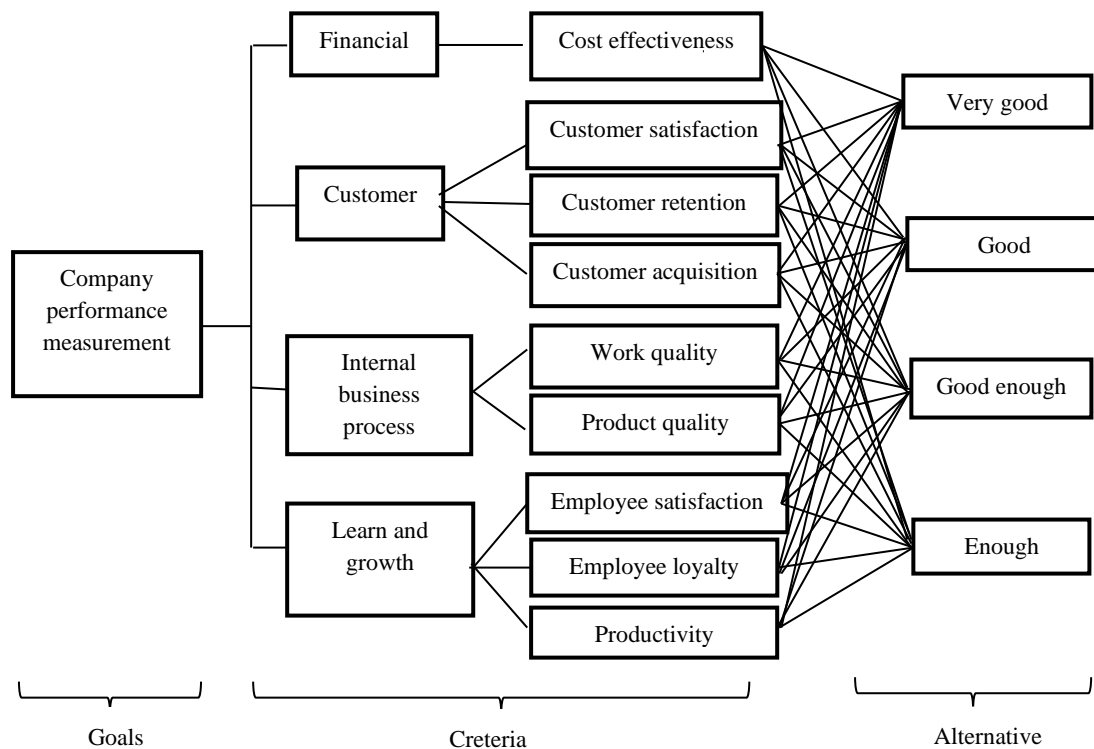
According to Kaplan and Norton, (1996) balanced scorecard is a company performance measurement tool that measures the company's overall performance, both financially and non-financially using four perspectives, namely, financial perspective, customer perspective, internal business perspective, and growth perspective. and learning. According to Kaplan and Norton (1996), the financial perspective is how stakeholders have plans to increase the company's revenue growth, handle ratios, and increase company profits. According to Kaplan and Norton, (1996) the customer perspective is divided into several customer measurement groups, namely the core customer measurement group, and the customer value measurement group. These measures include market share, customer satisfaction, and customer profitability. The main goal from a customer perspective is to create services that can provide superior value to targeted customers. According to Kaplan and Norton (1996) the internal business process perspective is the process of delivering value to customers and the process of reducing costs for productivity and financial perspectives. The internal business process perspective is the activities that exist within the organization to create quality products/services in order to realize customer demands. According to Kaplan and Norton (1996) the learning and growth perspective describes an organization's intangible assets and their role in corporate strategy. Training activities and work culture will become an interconnected relationship in the perspective of learning and growth that aims to improve company performance. AHP is a multi-criteria decision-making tool developed by Saaty. AHP is a systematic procedure for presenting systems and various kinds of problems in a hierarchical form. Hierarchy is a structure that starts from the top (target from a managerial point of view), then to the middle level (criteria that depend on the next level) to the lowest level (consisting of alternatives).

RESEARCH METHOD

The type of research used is descriptive research with a quantitative approach. According to Sugiyono (2018), quantitative research methods are defined as research methods based on the philosophy of positivism, used to examine certain populations or samples, data collection using research instruments, and statistical data analysis. This study uses a quantitative approach based on measurement research variables based on the results of calculations from interviews and questionnaires obtained from the AHP method. Data collection techniques in this study used documentation, interviews, and questionnaires. The data analysis technique used in this study is a quantitative descriptive analysis technique where this study uses analytical techniques using the Balanced Scorecard and Analytical Hierarchy Process methods. The following are analytical techniques in performance measurement research on a CV. Pujon Ramie Lestari.

1. Identify the previous performance measurement system from the results of interviews that can produce information on the problems encountered regarding performance measurement.
2. Determination of key performance indicators on the CV. Pujon Ramie Lestari. This determination is considered based on the suitability of the company's performance acquisition using the Balanced Scorecard with four perspectives, namely financial perspective, customer perspective, internal business process perspective, and development and growth perspective
3. KPI verification is carried out by company leaders. Verification aims to approve measurements that will be carried out at the company to measure company performance using the Balanced Scorecard on CV. Pujon Rami Lestari.

4. After knowing the four perspectives and the benchmarks for each perspective, then the overall performance measurement is carried out using weighting with the AHP method. The weighting process is carried out by the leader of CV. Pujon Rami Lestari and the finance and production division. This weighting aims to rank the KPIs that have the largest to smallest contribution. Furthermore, AHP weighting is assisted by Software Expert Choice 11 with AHP must have a consistency requirement of 10%. Variable weighting using the Analytical Hierarchy Process following the stages in the AHP:
- a. Identify the problem and determine the desired solution. Then, create a hierarchical structure that begins with goals, followed by criteria and other alternatives.



Source : Saaty (1993)

Figure 2. The hierarchical structure of AHP

Figure 2 shows that the main objective is to determine the company's performance CV. Pujon Rami Lestari. The components in the AHP structure consist of four criteria, namely, finance, customers, internal business processes, development, and growth. The sub-criteria consist of financial criteria, namely cost-effectiveness. Customer sub-criteria consists of customer satisfaction, customer retention, and customer acquisition. Internal business process sub-criteria consists of operation and product quality. Sub-criteria of growth and development consists of the number of employees, absenteeism, and employee productivity.

- b. Specifies the priority of the element.
 1. Make a paired comparison, which is to compare elements in pairs according to the given criteria.

2. The pairwise comparison matrix is filled in using numbers to represent the relative importance of an element to other elements.

Table 1. Pairwise comparison matrix

Criteria	Criteria 1	Criteria 2	Criteria 3	Criteria 4
Criteria 1	1	B1	C1	D1
Criteria 2	1/B1	1	C2	D2
Criteria 3	1/C1	1/C2	1	D3
Criteria 4	1/D1	1/D2	1/D3	1
Total	A4	B4	C4	D4

Source : Marsono (2020)

- c. Synthesis. The things that are done in this stage are as follows :
- 1) Sum the values of each column in the matrix
 - 2) Divide each value from the column by the corresponding column total to obtain a normalized matrix
 - 3) Add up the values of each row and divide by the number of elements to get the average value.
- c. Measuring concentration.
- This stage is measuring consistency, where the most important thing in making decisions within the company is to know how well you want consistency in making decisions based on consideration and low consistency. The things that are done in this step are:
- 1) Multiply each value in the first column by the relative priority of the first element, the value in the second column by the relative priority of the second element, and so on.
 - 2) Sum each row and the result of the row sum will be shared with the corresponding relative priority element
 - 3) Adding the above quotient by the number of elements that have a result is called max.
- d. After calculating the comparison matrix, a rating scale of 1-9 is given for the AHP method and determining the weight of each criterion will be assisted by Software Expert Choice Ver. 11.
- e. Check hierarchy consistency. According to Saaty (1993) if the CR value is greater than 10%, it means that it is inconsistent in that decision-makers must re-evaluate the assessment in conducting pairwise comparisons. However, if the value of the consistency ratio (CI/IR) is less or equal to 0.1. Then the calculation results can be declared correct. List of Random Consistency (IR) indices.

Table 2. Value of Consistency Ratio (IR)

M	1,2	3	4	5	6	7	8	9	10	11	12	13	14	15
IR	0,00	0,58	0,90	1,12	1,24	1,32	1,41	1,45	1,49	1,51	1,48	1,56	1,57	1,59

- f. After the weighting stage with AHP, data analysis is then carried out. This stage identifies data analysis to determine each prospective criteria in the company. Determination of company performance is carried out using a scale system from the four perspectives, which will analyze which perspective has the highest weight and will be the most important priority on CV performance. Pujon Ramie Lestari.
- g. The last stage is taking the overall conclusion from the results of the research that has been done. These conclusions are expected to help CV. Pujon Rami Lestari in measuring performance.

RESULTS AND DISCUSSION

Interview results on CV. Pujon Ramie Lestari in measuring company performance that has been adjusted to internal and external activities using the *Balanced Scorecard* with four perspectives, namely financial perspective, customer perspective, internal business process perspective and learning and growth perspective. CV performance indicators. Pujon Ramie Lestari will be calculated using the AHP method. The following are the results of the calculation of performance measurement indicators on CV. Pujon Ramie Lestari. Weighting was carried out with the results of interviews which were calculated with the help of the *Software Expert Choice 11*. The weighting is done based on each perspective. The results of the weighting calculation are as follows.

Table 3. The result of the weighting of each perspective

Perspectives	Weight
Internal Business Processes	0,376
Customer	0,347
Learn and Growth	0,157
Financial	0,124

Based on Table 3. the results of the comparison of weighting between perspectives in the *Balanced Scorecard* show that the internal business process perspective has the highest weight with a value of 0.376, while the customer perspective has the second highest weight with a value of 0.347. The learning and growth perspective is weighted with a value of 0.157 and a financial perspective with a weighted result of 0.124.

Table 4. Internal Business Process Sub Criteria Weighting Results

Sub Criteria	Weight
Product Process Quality	0,603
Quality of Work Process	0,397

Table 4. shows the results of the weighting of the *Lag Indicator and Lead Indicator* showing the internal business process perspective using two CV performance measurement indicators. Pujon Ramie Lestari, namely the quality of the work process with a weighted result of 0.397 and product quality has the highest weighting value of 0.603 compared to the quality of the work process. The weighting of the sub-criteria for the quality of the work process on the CV. Pujon Ramie Lestari is as follows:

Table 5. Weighting Results of Work Process Quality Sub Criteria

Sub Criteria	Weight
Degree of Accuracy in Operational Standards	0,712
Order Timeliness	0,288

Based on Table 5. Shows indicators of work process quality in the perspective of internal business processes having several sub-criteria, namely punctuality in order completion and punctuality in operational standards showing the highest weighting results of 0.712 by the sub-criteria level of standard accuracy operational. While the second weight with a value of 0.288 by the level of timeliness in the Order.

Table 6. Customer Sub Criteria Weighting Results

Sub Criteria	Weight
Customer satisfaction	0,706
Total of New Customers	0,186
Customer loyalty	0,108

Table 6. shows the customer perspective using three indicators, namely customer satisfaction has a weight of 0.706, new customers have a weight of 0.186 and customer loyalty has a weight of 0.108.

Table 7. Weighting of Learning and Growth Sub Criteria

Sub Criteria	Weight
Worker Productivity	0,532
Employee Retention	0,247
Employee Satisfaction	0,221

Table 7. shows the perspective of development and growth showing the results of the weighting of the three indicators measured, namely, productivity with a weighted result of 0.532, employee retention with a weighted result of 0.247 and the last indicator of employee satisfaction with a weighted result of 0.221

Table 8. The Results of the Weighting of the Financial Perspective Sub Criteria

Sub Criteria	Weight
Cost Effectiveness	1,00

Table 8. shows a financial perspective that focuses on cost-effectiveness indicators. Based on the final weighting results, the cost-effectiveness indicator has an absolute weight with a value of 1.00. Because this indicator gets a lot of attention from this perspective.

After weighting from each perspective, strategic objectives, and indicators, the overall weighting is carried out. The local weights obtained from the calculation results do not reflect the actual weighting of each indicator, to get the overall weighting of each indicator, the global weight results are multiplied by the perspective weights to get the actual weight. The following is a table of overall weighting results.

Table 9. Overall Weighting Results

Perspective	Weight	Indicator	Weight	Total
Financial	0,124	Cost Effectiveness	1,00	0,124
		Customer satisfaction	0,706	0,246
Customer	0,349	Customer loyalty	0,108	0,037
		Total of New Customers	0,186	0,064
		Quality of Work Process	0,397	0,149
Internal Business Process	0,376	Product quality	0,603	0,226
		Employee Satisfaction	0,221	0,033
		Employee Retention	0,247	0,037
Learning and growth	0,151	Worker Productivity	0,532	0,80

Based on Table 9. The results of the AHP and *Balanced Scorecard* as a whole show that the internal business process perspective has the highest weight with a value of 0.376, the second highest weight is by the customer perspective with a value of 0.349 and followed by a learning and growth perspective with a value of 0.151 and the lowest weighting results financial perspective with a value of 0.124. After the overall weighting results will be compared using Likert Scale with the following conditions :

Table 10. Determination of Performance Appraisal

Weight	Evaluation
0,001 – 0,25	Enough
0,26 – 0,50	Good Enough
0,51 – 0,75	Good
0,76 – 0,99	Very Good

Source : Sugiyono (2018)

Table 10. shows the assessment is calculated based on the percentage of 100% divided by four assessment criteria, namely 0.001 – 0.25% performance indication Enough, 0.26 – 0.50 % indicates Good Enough performance, 0.51 – 0.75% indicates Good performance, and 0.76 – 0.99% indicates Very Good performance. The results of this study indicate that the most important priority in measuring CV performance. Pujon Ramie Lestari is an internal business process perspective with a weight of 0.376 an indication of fairly good performance, the second priority is the customer perspective with a weight of 0.346 an indication of a fairly good performance, and the third priority is a learning and growth perspective with a weight of 0.151 an indication of sufficient performance, and the last priority is a financial perspective with a weight of 0.124 indicate sufficient performance.

The results of research conducted by Widodo (2019) regarding the measurement of the performance of the company PT. Golden Communication using the *Balanced Scorecard* and AHP methods is not in line with performance measurement research on CV. Pujon Ramie Lestari. The results of the research of Widodo et al. (2019) show the highest priority results from a financial perspective, but in this study, performance results from a financial perspective have the lowest weighted value. Research conducted by Tartiani et al. (2019) regarding performance measurement planning at PT. Ready-to-eat Vegetables with the *Balanced Scorecard* show that the four perspectives show the highest contribution and are categorized as good for company performance. This research is not in line with research on performance measurement on CV. Pujon Ramie Lestari, the four

perspectives are categorized as adequate in the company's performance even though the internal business process perspective has the highest weight in the company's performance weighting.

CONCLUSION

The results of the weighting of the CV. Pujon Ramie Lestari uses the AHP method and the internal business process perspective is the most important priority in the company with indications of fairly good performance. The second priority in measuring performance is the customer perspective with an indication of fairly good performance. Learning and growth perspective with sufficient indication of performance. The last priority is a financial perspective with sufficient performance indications. The results of the performance measurement CV. Pujon Ramie Lestari needs to carry out the main strategic target, namely internal business processes by improving the quality of work processes and improving product quality and performance measurement indicators from the customer perspective which has the highest weight, namely customer satisfaction with sufficient performance indications as well as a priority that needs to be studied more deeply to carry out strategic goals in order to increase customer satisfaction so that CV. Pujon Ramie Lestari is a company that can be trusted for good product quality.

REFERENCE

- Amstrong, M. (2004). *Performance Management*. Jogjakarta : Tugu.
- Kaplan, R. S. (1996). *The Balanced Scorecard : Translating Strategy Into Action*. Massachusetts: Harvard Business Review.
- Kaplan Robert S. Dan Norton, D. P. (1996). *Balanced Scorecard : Menerjemahkan Strategis Aksi*, Alih Bahasa : Peter R. Yosi Pasla. Jakarta: Erlangga.
- Marsono, M. (2020). *Penggunaan Metode Analytical Hierarchy Process dalam Penelitian Bogor*. Bogor: IN MEDIA.
- Mulyadi. (2007). *Sistem Perancangan dan Pengendalian Manajemen : Sistem Pelipatganda Kinerja Perusahaan*. Jakarta: Salemba Empat.
- Norton, R. S. (2000). *Balanced Scorecard : Menerapkan Strategi Menjadi Aksi*. Jakarta: Erlangga.
- Panudju, A. T. (2016). "Pengukuran Kinerja Perusahaan Menggunakan Metode *Balanced Scorecard* dengan Pembobotan *Analytical Hierarchy Process*". *Jurnal Integritas Sistem Industri*.
- Rusli, M. (2019). "Pengukuran Kinerja Perusahaan PT. Greeneration Indonesia Menggunakan Metode *Balanced Scorecard* dan AHP". *Jurnal Teknik Industri*.
- Saaty, T. (1993). *Pengambilan Keputusan Bagi Para Pemimpin, Proses Hirarki Analitik Untuk Pengambilan Keputusan dalam Situasi yang Kompleks*. Jakarta: PT. Pustaka Binaman Pressindo.
- Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta.
- Tartiani, Y. A. (2019). *Perancangan Pengukuran Kinerja di PT. Sayuran Siap Saji dengan Pendekatan *Balanced Scorecard**. *Jurnal IPB*.
- Wibowo. (2007). *Manajemen Kinerja, Edisi Kedua*. Jakarta: PT. Raja Grafindo Persada.
- Widodo, T. T. (2019). *Analisa Pengukuran Kinerja Team Direct Selling PT. Golden Communication dengan Menggunakan Metode *Balanced Scorecard* dan *Analytical Hierarchy Process**. *Jurnal Kreatif Industri*.