

LAMPIRAN 1 – Survei Kepuasan Karyawan

Tabel Daftar Pertanyaan

No.	PERTANYAAN					
		STS = Sangat Tidak Setuju (1)				
		TS = Tidak Setuju (2)				
		R = Ragu (3)				
		S = Setuju (4)				
SS = Sangat Setuju (5)						
		STS	TS	R	S	SS
Berfokus pada: Kepuasan Gaji						
1	Organisasi ini memberikan gaji kepada saya lebih baik daripada pesaing					
2	Gaji saya cukup, sesuai tanggung jawab yang saya emban					
3	Tunjangan yang saya terima lebih dari cukup					
4	Bonus yang saya terima lebih dari cukup					
5	Saya menikmati hidup, dengan gaji, bonus dan tunjangan yang saya terima					
Berfokus pada : Promosi						
6	Saya suka dengan dasar/prosedur promosi yang digunakan organisasi saya					
7	Promosi jarang terjadi di organisasi saya					
8	Jika saya bekerja dengan baik, saya akan dipromosikan					
9	Saya puas dengan tingkat kemajuan saya selama ini					
10	Saya puas dipromosikan atas prestasi kerja saya					
Berfokus pada : Rekan Sekerja						
11	Rekan sekerja saya banyak yang mendukung saya					
12	Banyak rekan sekerja saya yang membantu pekerjaan saya					
13	Saya menikmati pekerjaan dengan rekan-rekan sekerja saya					
14	Saya puas atas promosi saya dengan bantuan rekan sekerja					
Berfokus pada : Atasan						
15	Penyelia (manajer) saya mendukung saya					
16	Penyelia (manajer) yang membantu pekerjaan saya					
17	Saya menikmati pekerjaan saya dengan penyelia (manajer) saya					
18	Penyelia (manajer) saya banyak memberikan motivasi kepada saya					
19	Penyelia (manajer) saya senang mendengarkan usulan saya					
Berfokus pada : Pekerjaan						
20	Saya suka dan menikmati dengan pekerjaan saya					
21	Saya sangat puas dengan hasil pekerjaan saya selama ini					
22	Saya puas dan menikmati dengan pekerjaan saya karena banyak kemajuan untuk organisasi					
23	Saya puas dengan pekerjaan saya selama ini dan akan saya pertahankan di organisasi ini Saya puas dipromosikan atas hasil					
24	Saya puas dipromosikan atas hasil pekerjaan saya					
<p><i>Terima kasih atas partisipasi Anda, semoga hasil kuesioner ini dapat menjadi masukan yang berguna untuk penelitian dan pengukuran kepuasan kerja</i></p>						

LAMPIRAN 2 – Respon Survei Kepuasan Karyawan

	Fokus Pada Gaji					Fokus Pada Promosi					Fokus Pada Rekan Kerja				Fokus Pada Atasan				Fokus Pada Pekerjaan						
Survey	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9	Q.10	Q.11	Q.12	Q.13	Q.14	Q.15	Q.16	Q.17	Q.18	Q.19	Q.20	Q.21	Q.22	Q.23	Q.24	
Res 1	4	5	5	5	5	4	5	5	5	5	4	5	5	5	4	5	5	5	5	5	4	5	5	5	5
Res 2	5	4	5	5	5	5	4	5	5	5	4	5	5	5	5	4	5	5	5	5	5	4	5	5	5
Res 3	5	4	5	5	5	5	4	4	5	5	4	4	5	5	5	4	5	5	5	5	5	4	5	5	5
Res 4	3	4	4	3	4	3	4	4	3	4	1	4	4	4	3	4	4	3	4	3	4	4	4	3	4
Res 5	5	4	4	3	3	5	4	4	3	3	5	4	4	3	5	4	4	3	3	5	4	4	3	3	
Res 6	5	4	4	5	5	5	3	4	5	5	4	3	4	5	5	3	4	5	5	5	3	4	5	5	
Res 7	4	3	4	5	5	4	3	4	5	5	4	4	4	5	4	3	4	5	5	4	3	4	5	5	
Res 8	5	4	5	4	5	5	4	5	4	5	5	4	4	4	5	4	5	4	5	5	4	5	4	5	
Res 9	5	5	5	4	5	5	5	5	4	5	5	5	5	4	5	5	5	4	5	5	5	5	4	5	
Res10	4	4	4	5	5	4	4	4	5	5	5	5	5	4	4	4	4	5	5	4	4	4	5	5	
Res11	5	5	4	5	5	5	5	4	5	5	5	5	4	5	5	5	4	5	5	5	5	4	5	5	
Res 12	4	5	4	5	5	4	5	4	5	5	5	5	4	5	4	5	4	5	5	4	5	4	5	5	
Res 13	5	4	5	4	5	5	4	5	4	5	4	4	4	4	5	4	5	4	5	5	4	5	4	5	
Res 14	4	5	5	5	5	4	5	5	5	5	4	5	5	5	4	5	5	5	5	4	5	5	5	5	
Res 15	5	4	4	5	5	5	4	4	5	5	5	4	4	5	5	4	4	5	5	5	4	4	5	5	
Res 16	4	5	4	4	5	4	5	4	5	5	5	5	5	4	5	4	4	5	4	5	4	5	4	5	
Res 17	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Res 18	4	4	4	4	5	4	4	4	4	5	5	4	4	4	4	4	4	4	5	4	4	4	4	5	
Res 19	5	4	5	5	4	5	4	5	5	4	4	4	5	5	4	5	5	4	5	4	5	4	5	4	
Res 20	5	5	4	5	4	5	5	4	5	4	5	5	4	5	5	5	4	5	4	5	5	4	5	4	

LAMPIRAN 3 – Survei Kuisisioner Expert

SURAT KEPADA RESPONDEN

Kepada Yth :
Responden
di – tempat.

Dengan Hormat,

Sebelumnya kami ucapkan terima kasih atas kesediaan Bapak/Ibu/Sdr/i, untuk ikut serta dalam pengisian kuesioner ini, mohon saran dan masukan terkait penelitian yang kami lakukan yaitu mengenai Perancangan Sistem Manajemen Kinerja Lembaga Inspeksi di Indonesia.

Pada tahap ini kami mohon kesediaan Bapak/Ibu/Sdr/i untuk berperan serta memberikan penilaian bobot prioritas terhadap pasangan perancangan pengukuran kinerja awal dari masing-masing perspektif. Hal ini dilakukan untuk menentukan mana yang harus diprioritaskan untuk kemajuan perusahaan.

Demikian permohonan dari kami, atas masukan dan kesediaan Bapak/ Sdr/i meluangkan waktu untuk mengisi kuesioner ini, kami ucapkan banyak terima kasih.

Hormat kami,

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SAEFULAH

I. PETUNJUK PENGISIAN KUESIONER

1. Kuesioner ini terdiri dari lima (4) bagian yaitu:
 - a) Pengantar
 - b) Petunjuk pengisian kuesioner
 - c) Penjelasan struktur hirarki
 - d) Formulir pembobotan
2. Pelajari terlebih dahulu pohon hirarki perancangan pengukuran kinerja beserta keterangannya. Apabila ditemukan sesuatu yang kurang dimengerti, dapat ditanyakan kepada penulis.
3. Isilah formulir pembobotan dengan cara sebagai berikut:
 - a. Perhatikan formulir pembobotan, yang memuat informasi tentang:
 - 1) Tujuan atau konteks pembobotan yang tercantum di atasnya.
 - 2) Judul-judul pada kolom dari formulir pembobotan, yaitu:
 - Kolom faktor/elemen yang akan dibandingkan (judul kolom di bagian paling kiri dan kanan).
 - Kolom penilaian (dari 1 sampai 9).
 - b. Pembobotan dilakukan dengan membandingkan faktor/elemen disebelah kiri dengan di sebelah kanan.
 - c. Berilah tanda silang (X) pada tempat yang sesuai dengan arti penilaian sebagai berikut:

Tabel Skala Penilaian Perbandingan Berpasangan

Intensitas kepentingan	Keterangan	Penjelasan
1	Kedua elemen sama penting	Dua elemen mempunyai pengaruh yang sama besar terhadap tujuan
3	Elemen yang satu sedikit lebih penting daripada elemen yang lain	Pengalaman dan penilaian sedikit menyokong satu elemen dibandingkan elemen yang lain
5	Elemen yang satu lebih penting daripada elemen yang lainnya	Pengalaman dan penilaian sangat kuat menyokong satu

Intensitas kepentingan	Keterangan	Penjelasan
		elemen dibandingkan elemen lainnya
7	Satu elemen jelas lebih mutlak penting daripada elemen lainnya	Satu elemen yang kuat disokong dan dominan terlihat dalam praktek
9	Satu elemen mutlak penting daripada elemen lainnya	Bukti yang mendukung elemen yang satu terhadap elemen yang lain memiliki tingkat penegasan tertinggi yang mungkin menguatkan
2,4,6,8	Nilai-nilai antara dua nilai pertimbangan yang berdekatan	Nilai ini diberikan bila ada dua kompromi diantara dua pilihan

- d. Usahakan jawaban terhadap penilaian pasangan faktor elemen konsisten, misalnya jika X lebih penting dari Y, dan Y lebih penting dari Z, maka X lebih penting dari Z. Jika tidak, maka jawaban tersebut menjadi tidak konsisten.
- e. Perhatikan contoh pengisian formulir pembobotan berikut ini:

Perpektif	Bobot Kepentingan																	Perpektif
Keuangan	9	8	7	6	5	4	3	2	X	2	3	4	5	6	7	8	9	Pelanggan

Penjelasan: Tingkat kepentingan antara keuangan dengan pelanggan adalah sama pentingnya.

Perpektif	Bobot Kepentingan																	Perpektif
Keuangan	9	8	7	6	5	4	3	X	1	2	3	4	5	6	7	8	9	Pelanggan

Penjelasan: Tingkat kepentingan keuangan adalah sedikit lebih penting dari pelanggan

II. PENJELASAN STRUKTUR HIRARKI

Dalam penelitian ini, metode yang digunakan adalah *Balance Scorecard (BSC)* dan pembobotan dilakukan dengan *Analitycal Hierarchy Process (AHP)* dengan bantuan *software Super Decision*.

Pada kuesioner ini terdapat 4 hirarki, yaitu :

1. Hirarki 1 adalah tujuan

Menjelaskan tentang hirarki utama dengan *Balanced Scorecard (BSC)* dari Lembaga Inspeksi.

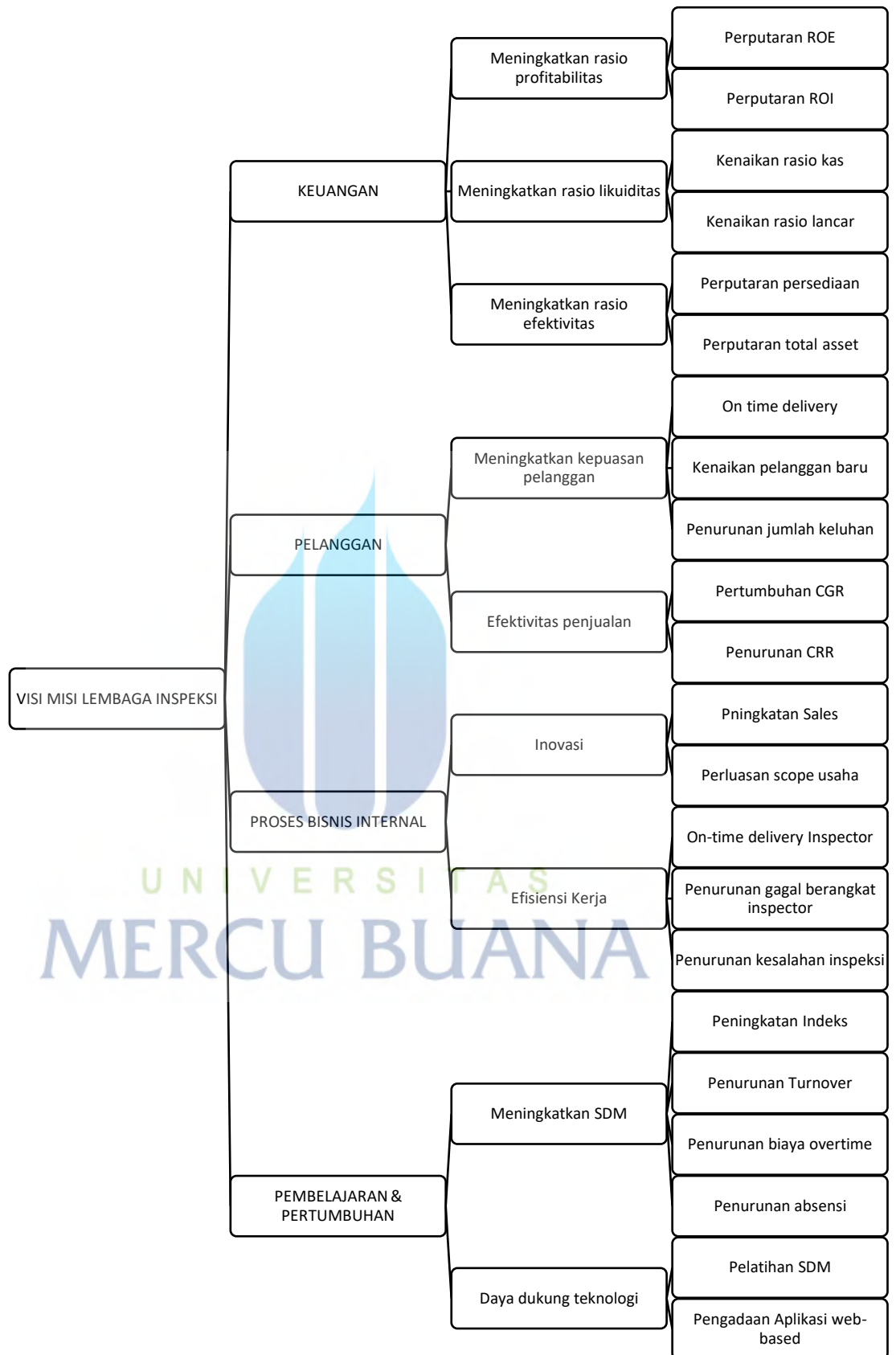
2. Hirarki 2 adalah kriteria (perspektif) yang diukur yang terdapat pada *Balanced Scorecard (BSC)*, yaitu perspektif keuangan, pelanggan, proses bisnis internal, serta pertumbuhan dan pembelajaran.

3. Hirarki 3 adalah sasaran strategis untuk mencapai sasaran tiap perspektif.

4. Hirarki 4 adalah *Key Performance Indicator (KPI)* yang digunakan untuk mengukur tingkat keberhasilannya.

Hasil evaluasi pembobotan pada keempat perspektif, sasaran strategis dan KPI di atas, tersusun struktur hirarki *Balanced Scorecard* untuk perusahaan / Lembaga Inspeksi sebagai berikut ini:

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III. FORMULIR PEMBOBOTAN PERSPEKTIF, SASARAN STRATEGIS & KEY PERFORMANCE INDICATOR (KPI)

Penilaian / pembobotan ini berguna sebagai data penelitian dengan mengukur tingkat kepentingan antar perspektif (*Balance Scorecard*), antar Sasaran Strategis dan antar *Key Performance Indicator (KPI)*

PETUNJUK PENGISIAN:

1. Seberapa pentingkah perspektif disebelah kiri dibandingkan dengan perspektif disebelah kanan dalam tabel berikut menurut anda.
2. Lingkari angka 1 – 9 pada kolom bobot kepentingan (skala bobot yang dikehendaki).

Jabatan Responden: _____

Pembobotan Kepentingan Antar 4 (empat) Perspektif																		
Perpektif	Bobot Kepentingan																	Perpektif
Keterangan																		
1	: Kedua elemen sama penting																	
3	: Elemen yang satu sedikit lebih penting																	
5	: Elemen yang satu lebih penting																	
7	: Elemen yang satu jelas lebih penting																	
9	: Elemen yang satu mutlak lebih penting																	
2,4,6,8	: Nilai antara dua nilai pertimbangan yang berdekatan																	
Kuangan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Pelanggan
Kuangan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Proses Bisnis Internal
Kuangan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Pertumbuhan & Pembelajaran
Pelanggan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Proses Bisnis Internal
Pelanggan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Pertumbuhan & Pembelajaran
Proses Bisnis Internal	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Pertumbuhan & Pembelajaran

Jabatan Responden: _____

Pembobotan Kepentingan Antar Sasaran Strategis (SS) pada Perspektif Keuangan																		
Keterangan																		
1	: Kedua elemen sama penting																	
3	: Elemen yang satu sedikit lebih penting																	
5	: Elemen yang satu lebih penting																	
7	: Elemen yang satu jelas lebih penting																	
9	: Elemen yang satu mutlak lebih penting																	
2,4,6,8	: Nilai antara dua nilai pertimbangan yang berdekatan																	
Sasaran Strategis	Bobot Kepentingan																	Sasaran Strategis
Rasio Profitabilitas	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Rasio Likuiditas
Rasio Profitabilitas	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Rasio Efektifitas
Rasio Likuiditas	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Rasio Efektifitas

Jabatan Responden: _____

Pembobotan Kepentingan Antar Sasaran Strategis (SS) pada Perspektif Pelanggan																		
Keterangan																		
1	: Kedua elemen sama penting																	
3	: Elemen yang satu sedikit lebih penting																	
5	: Elemen yang satu lebih penting																	
7	: Elemen yang satu jelas lebih penting																	
9	: Elemen yang satu mutlak lebih penting																	
2,4,6,8	: Nilai antara dua nilai pertimbangan yang berdekatan																	
Sasaran Strategis	Bobot Kepentingan																	Sasaran Strategis
Kepuasan Pelanggan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Efektifitas Penjualan

Jabatan Responden: _____

Pembobotan Kepentingan Antar Sasaran Strategis (SS) pada Perspektif Proses Bisnis Internal																		
Keterangan																		
1 : Kedua elemen sama penting																		
3 : Elemen yang satu sedikit lebih penting																		
5 : Elemen yang satu lebih penting																		
7 : Elemen yang satu jelas lebih penting																		
9 : Elemen yang satu mutlak lebih penting																		
2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan																		
Sasaran Strategis	Bobot Kepentingan															Sasaran Strategis		
Inovasi (Jasa Baru)	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Efisiensi Produk Jasa

Jabatan Responden: _____

Pembobotan Kepentingan Antar Sasaran Strategis (SS) pada Perspektif Pembelajaran dan Pertumbuhan																		
Keterangan																		
1 : Kedua elemen sama penting																		
3 : Elemen yang satu sedikit lebih penting																		
5 : Elemen yang satu lebih penting																		
7 : Elemen yang satu jelas lebih penting																		
9 : Elemen yang satu mutlak lebih penting																		
2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan																		
Sasaran Strategis	Bobot Kepentingan															Sasaran Strategis		
Produktifitas SDM	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Daya dukung teknologi

Jabatan Responden: _____

Pembobotan Antar Key Performance Indicator (KPI) pada Rasio Profitabilitas																		
Keterangan																		
1 : Kedua elemen sama penting																		
3 : Elemen yang satu sedikit lebih penting																		
5 : Elemen yang satu lebih penting																		
7 : Elemen yang satu jelas lebih penting																		
9 : Elemen yang satu mutlak lebih penting																		
2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan																		
Sasaran Strategis	Bobot Kepentingan																Sasaran Strategis	
Return on Equity (ROE)	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Return on Invesment (ROI)

Jabatan Responden: _____

Pembobotan Antar Key Performance Indicator (KPI) pada Rasio Likuiditas																		
Keterangan																		
1 : Kedua elemen sama penting																		
3 : Elemen yang satu sedikit lebih penting																		
5 : Elemen yang satu lebih penting																		
7 : Elemen yang satu jelas lebih penting																		
9 : Elemen yang satu mutlak lebih penting																		
2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan																		
Sasaran Strategis	Bobot Kepentingan																Sasaran Strategis	
Rasio Kas (Cash Ratio)	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Rasio Lancar (Current Ratio)

Jabatan Responden: _____

Pembobotan Antar Key Performance Indicator (KPI) pada Rasio Efektivitas																		
Keterangan																		
1 : Kedua elemen sama penting																		
3 : Elemen yang satu sedikit lebih penting																		
5 : Elemen yang satu lebih penting																		
7 : Elemen yang satu jelas lebih penting																		
9 : Elemen yang satu mutlak lebih penting																		
2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan																		
KPI	Bobot Kepentingan															KPI		
Perputaran Persediaan (Inventory Turn Over / ITO)	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Perputaran Aset (Total Asset Turn Over (TATO))

Jabatan Responden: _____

Pembobotan Antar Key Performance Indicator (KPI) pada Kepuasan Pelanggan																		
Keterangan																		
1 : Kedua elemen sama penting																		
3 : Elemen yang satu sedikit lebih penting																		
5 : Elemen yang satu lebih penting																		
7 : Elemen yang satu jelas lebih penting																		
9 : Elemen yang satu mutlak lebih penting																		
2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan																		
KPI	Bobot Kepentingan															KPI		
On time delivery	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Kenaikan Pelanggan baru
On time delivery	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan keluhan Pelanggan
Kenaikan Pelanggan Baru	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan Keluhan Pelanggan

Jabatan Responden: _____

Pembobotan Antar Key Performance Indicator (KPI) pada Efektivitas Penjualan																		
Keterangan																		
1	: Kedua elemen sama penting																	
3	: Elemen yang satu sedikit lebih penting																	
5	: Elemen yang satu lebih penting																	
7	: Elemen yang satu jelas lebih penting																	
9	: Elemen yang satu mutlak lebih penting																	
2,4,6,8	: Nilai antara dua nilai pertimbangan yang berdekatan																	
KPI	Bobot Kepentingan																	KPI
Pertumbuhan Costumer Growth Rate	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Menurunkan Costumer Retention Rate

Jabatan Responden: _____

Pembobotan Antar Key Performance Indicator (KPI) pada Inovasi (pengembangan produk baru)																		
Keterangan																		
1	: Kedua elemen sama penting																	
3	: Elemen yang satu sedikit lebih penting																	
5	: Elemen yang satu lebih penting																	
7	: Elemen yang satu jelas lebih penting																	
9	: Elemen yang satu mutlak lebih penting																	
2,4,6,8	: Nilai antara dua nilai pertimbangan yang berdekatan																	
KPI	Bobot Kepentingan																	KPI
Penjualan Account Officer (AO)	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Jumlah jasa baru

Jabatan Responden: _____

Pembobotan Antar Key Performance Indicator (KPI) pada Efisiensi Produksi																		
Keterangan																		
1	: Kedua elemen sama penting																	
3	: Elemen yang satu sedikit lebih penting																	
5	: Elemen yang satu lebih penting																	
7	: Elemen yang satu jelas lebih penting																	
9	: Elemen yang satu mutlak lebih penting																	
2,4,6,8	: Nilai antara dua nilai pertimbangan yang berdekatan																	
KPI	Bobot Kepentingan															KPI		
On time lead time	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan produk second quality (kualitas AR)
On time lead time	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan produk yang reproses
Penurunan produk second quality (Kualitas AR)	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan produk yang reproses

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Jabatan Responden: _____

Pembobotan Kepentingan Antar Key Performance Indicator (KPI) pada Peningkatan SDM

Keterangan

- 1 : Kedua elemen sama penting
- 3 : Elemen yang satu sedikit lebih penting
- 5 : Elemen yang satu lebih penting
- 7 : Elemen yang satu jelas lebih penting
- 9 : Elemen yang satu mutlak lebih penting
- 2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan

KPI	Bobot Kepentingan																	KPI
Indeks kepuasan karyawan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan Turnover karyawan
Indeks kepuasan karyawan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan biaya overtime
Indeks kepuasan karyawan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan tingkat absensi
Penurunan Turn over karyawan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan biaya overtime
Penurunan Turn over karyawan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan tingkat absensi
Penurunan Turn over karyawan	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Penurunan tingkat absensi

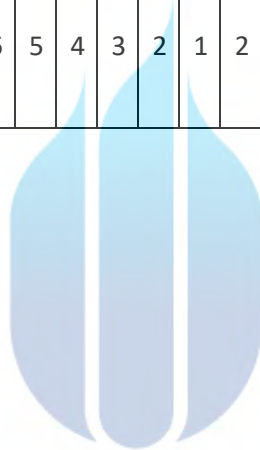
Jabatan Responden: _____

Pembobotan Kepentingan Antar Key Performance Indicator (KPI) pada Daya Dukung Teknologi

Keterangan

- 1 : Kedua elemen sama penting
- 3 : Elemen yang satu sedikit lebih penting
- 5 : Elemen yang satu lebih penting
- 7 : Elemen yang satu jelas lebih penting
- 9 : Elemen yang satu mutlak lebih penting
- 2,4,6,8 : Nilai antara dua nilai pertimbangan yang berdekatan

KPI	Bobot Kepentingan																		KPI
Pengadaan software ERP & Peralatan komputer	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Pelatihan SDM	



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LAMPIRAN 4 – Respon Survei Kuisisioner Expert

Time / Nama Expert	Jabatan	Institusi	Pembobotan Antar Perspektif						Pembobotan Antar Sasaran Strategis						Pembobotan Antar <i>Key Performance Indicator</i>												Email													
			1	2	2	1	-	2	-	-	2	2	-	5	4	3	3	-	-	3	3	5	-	-	3	4		-	-	-	-	5	-							
11/21/2020 11:24:16 M Isa Ansori	Direktur	PT AKAI	1	2	2	1	-	2	-	-	2	2	-	5	4	3	3	-	-	3	3	5	-	-	3	4	-	-	-	-	5	-	isa.ansori@pt-akai.com							
12/12/2020 12:54:36 S. Kasman	Standardisasi	BSN	1	2	2	1	3	1	-	3	2	3	-	5	3	3	2	-	1	2	-	1	-	5	4	5	5	-	-	-	-	2	-	s.kasman@ymail.com						
1/12/2021 18:14:10 Wicaksana	Direktur	PT TUV	2	3	1	2	5	-	3	3	3	5	-	5	1	-	5	3	-	5	3	-	6	3	6	4	5	7	-	-	-	-	3	-	tuv.agency@gmail.com					
2/23/2021 9:11:26 Yogaswara	Direktur	UTITEK	1	3	3	1	3	1	-	3	-	3	3	3	5	3	3	2	-	-	3	-	5	1	-	5	3	3	3	-	-	-	-	2	-	indra@utitek.co.id				
2/28/2021 18:19:21 Miftahuddin	Dosen	Univ Djuanda	2	1	2	2	3	2	-	2	-	3	2	3	-	5	4	3	2	3	-	3	-	3	3	4	2	-	4	4	5	5	-	-	-	-	3	-	miftahuddin1010@gmail.com	
3/29/2021 19:04:56 Jihaad Ahmad	Komisaris	PT ASRI	-	1	3	1	3	3	-	5	-	5	1	3	-	2	3	1	2	4	-	5	1	3	-	7	5	-	7	-	2	6	1	-	-	-	-	3	-	j.ahmad@asriutama.com



LAMPIRAN 5 – Laporan Keuangan 2018 -2019



LAPORAN KEUANGAN PT ASRI UTAMA INSPEKSI PENGUJIAN SERTIFIKASI PERIODE 2018 – 2019

URAIAN	Unit	Periode Tahun	
		2018	2019
Return on Equity	%	10	10
Return on Investment	%	9	8
Rasio Kas (Cash Ratio)	%	5	3
Rasio Lancar (Current Ration)	%	8,3	14
Perputaran Persediaan (Inventory Turnover)	S	2,16	2,11
Perputaran Total Aset (Total Asset Turn Over)	%	13	15

Catatan:

Laporan ini diberikan untuk saudara **Saeifulah** sebagai bahan penelitian dan penulisan Thesis, harap dipergunakan sebagaimana mestinya.

Jakarta, 20 Januari 2021

Fitria Umar
Manager Keuangan

Cc: Arsip



PT ASRI UTAMA Inspeksi Pengujian Sertifikasi

Operation Office:
Menara 165, Lantai 4, Jl. TB Simatupang Kav. 1,
Cilandak Timur, Ps. Minggu, DKI Jakarta 12560 Indonesia
Hotline: 0888 868 4000 Email: info@asriutama.com

Legal Office:
Rose Garden Residence, Blok D/22,
Sukatani, Tapos, Depok, West Java 16454 – Indonesia
Phone: 021 2296 5189 Email: admin@asriutama.com



LAMPIRAN 6 – Laporan Pelanggan 2018 -2019



LAPORAN PELANGGAN PT ASRI UTAMA INSPEKSI PENGUJIAN SERTIFIKASI PERIODE 2018 – 2019

URAIAN	Unit	Periode Tahun	
		2018	2019
On time / right delivery	% (jumlah tugas / proyek)	90	90
Jumlah Pelanggan	client	2	2
Keluhan Pelanggan	laporan	19	20
Customer Retention	%	21	15
Costumer Growth	%	2	10

Catatan:

Laporan ini diberikan untuk saudara **Saeifulah** sebagai bahan penelitian dan penulisan Thesis, harap dipergunakan sebagaimana mestinya.

Jakarta, 20 Januari 2021

Muhammad Fauzi
Manager Marketing



Cc: Arsip

PT ASRI UTAMA Inspeksi Pengujian Sertifikasi

Operation Office:
Menara 165, Lantai 4, Jl. TB Simatupang Kav. 1,
Cilandak Timur, Ps. Minggu, DKI Jakarta 12560 Indonesia
Hotline: 0888 868 4000 Email: info@asriutama.com

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Sukatani, Tapos, Depok, West Java 16454 – Indonesia
Phone: 021 2296 5189 Email: admin@asriutama.com



LAMPIRAN 7 – Laporan *Learn and Growth* 2018 -2019



LAPORAN PEMBELAJARAN & PERTUMBUHAN PT ASRI UTAMA INSPEKSI PENGUJIAN SERTIFIKASI PERIODE 2018 – 2019

URAIAN	Unit	Periode Tahun	
		2018	2019
Indeks kepuasan karyawan	%	70	75
Tingkat turnover karyawan	%	3	5
Biaya overtime	% per tahun	10	10
Tingkat absensi	%	92	94
Pengadaan aplikasi web-base & laptop	Bulan	12	12
Pelatihan SDM	x pertahun	0	1

Catatan:

Laporan ini diberikan untuk saudara **Sacfulah** sebagai bahan penelitian dan penulisan Thesis, harap dipergunakan sebagaimana mestinya.

Jakarta, 20 Januari 2021

Abdulloh, SAM
Manager HRD

Cc: Arsip

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<input type="checkbox"/>	VER.
SIGNATURE: _____	
DATE: _____	

PT ASRI UTAMA Inspeksi Pengujian Sertifikasi

Operation Office:
Menara 165, Lantai 4, Jl. TB Simatupang Kav. 1,
Cilandak Timur, Ps. Minggu, DKI Jakarta 12560 Indonesia
Hotline: 0888 868 4000 Email: info@asriutama.com

Legal Office:
Rose Garden Residence, Blok D/22,
Sukatani, Tapos, Depok, West Java 16454 – Indonesia
Phone: 021 2296 5189 Email: admin@asriutama.com



LAMPIRAN 8 – Laporan Proses Bisnis Internal 2018 -2019



LAPORAN PROSES BISNIS INTERNAL PT ASRI UTAMA INSPEKSI PENGUJIAN SERTIFIKASI PERIODE 2018 – 2019

URAIAN	Unit	Periode Tahun	
		2018	2019
Penjualan masing-masing Account Office	IDR	7.500.000	5.500.000
Jumlah jasa inspeksi baru	layanan	2	3
Tingkat on time lead time	% per client	85	87
Tingkat jasa kelas 2 (second class)	Man-days	31	36
Tingkat jasa yang re-work	Man-days	31	24

Catatan:

Laporan ini diberikan untuk saudara **Saeifulah** sebagai bahan penelitian dan penulisan Thesis, harap dipergunakan sebagaimana mestinya.

Jakarta, 20 Januari 2021

Doni Atmojo
Manager Operasional

Cc: Arsip

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<input checked="" type="checkbox"/> INT.
<input type="checkbox"/> VER.
SIGN _____
DATE: _____

PT ASRI UTAMA Inspeksi Pengujian Sertifikasi

Operation Office:
Menara 165, Lantai 4, Jl. TB Simatupang Kav. 1,
Cilandak Timur, Ps. Minggu, DKI Jakarta 12560 Indonesia
Hotline: 0888 868 4000 Email: info@asrutama.com

Legal Office:
Rose Garden Residence, Blok D/22,
Sukatani, Tapos, Depok, West Java 16454 – Indonesia
Phone: 021 2296 5189 Email: admin@asrutama.com



LAMPIRAN 9 – Curriculum Vitae Penulis



PERSONAL INFORMATION

Name : Saefulah, S.Kom., S.T., M.T., IPM., ASEAN Eng.
Place, BOD : Cirebon, 07-Nov-1973
Nationality : Indonesian
Education : Bachelor in Industrial and Informatic Engineering
Master in Industrial Engineering, focus in Quality & Productivity Engineering
Membership : - The Institution of Engineers Indonesia (PII)
- Indonesian Welding Engineer Society (IWES)
- Indonesian Geothermal Association (INAGA)
- Asean Engineer Register (AER)
Qualification : QA/QC Manager, Welding Inspector, Lifting Inspector and NDE
Engineer (RT, MT, PT Level 2)
Mobile / WA : +62 811 213 6040 | email saeful.geo@gmail.com

Highlight:

- ✓ Having more than 8 years' experience for Inspection Manager.
- ✓ Having more than 15 years' experience for QA/QC Coordinator.
- ✓ Having more than 22 years' experience in Inspection Services.
- ✓ Good English both writing and speaking, TOEFL 500
- ✓ Disciplines covered for coordination; Mechanical, Rotating, Structural, Piping, Lifting etc.
- ✓ Understanding and experience with codes: AWS / ASME / JIS / EN / DNV / API / NACE etc.
- ✓ Planning and controlling schedules for inspection and Inspectors activities.

- ✓ Reviewing Inspection Reports and resolution of NCRS and other problems.

PROFESSIONAL TRAINING & SEMINAR ATTENDED

1. Period : 2021
Attend : **Lead Auditor**
Conducted by : TUV NORD German
Topic : ISO 9001: 2015 (Quality Management System).
2. Period : 2020
Attend : **Lifting Inspector**, AK3 Spesialis Pesawat Angkat dan Pesawat Angkut
Conducted by : Padjadjaran Bina Katiga (PJK3 Kemnaker)
Topic : Permenaker No 08 Tahun 2020, UU No 1 tahun 1970, dll..
3. Period : 2020
Attend : **Project Management Professional, PMP®**
Conducted by : Alison. Ireland
Topic : PMBOK (The Project Management Body of Knowledge)
4. Period : 2018
Attend : **Inspection of Game Machines and Coin Machines**
Conducted by : TÜV Nord Global Competence Center
Topic :
 - Risk assessment of portable electrical appliances
 - Risk assessment conforming to ISO 12100
 - Inspection checklist
 - Practicum of inspection
 - Documentation of inspection results
5. Period : 2009
Attend : **Welding Inspector**
Conducted by : Biro Klasifikasi Indonesia
6. Period : 2009
Attend : **Re-Certification of Magnetic Testing Level 2**
Conducted by : In-House by PT. OPI Jakarta Indonesia
7. Period : 2009
Attend : **Re-Certification of Dye Penetrant Testing Level 2**
Conducted by : In-House by PT. OPI Jakarta Indonesia
8. Period : 2006
Attend : **Sea Survival Training**
Conducted by : BSST Pertamina Indonesia
9. Period : 2006
Attend : **Welding Inspector CSWIP 3.1**
Conducted by : The Welding Institute Cambridge British
10. Period : 2006
Attend : **Fire Fighting & First Aid Training**
Conducted by : Barron International Malaysia
11. Period : 2005
Attend : **Examination of Radiographic Testing Level 2**

- Conducted by : BATAN Jakarta Indonesia
12. Period : 2000
 Attend : **Training Course on Radiographic Testing Level 2**
 Conducted by : BATAN Jakarta Indonesia
13. Period : 1998
 Attend : **Training Course on Radiographic Testing Level 1**
 Conducted by : BATAN Jakarta Indonesia
14. Period : 1997
 Attend : **Drilling Course OLB Level 2**
 Conducted by : Oil and Gas Ministry Indonesia
15. Period : 1995
 Attend : **Achievement Motivation Training**
 Conducted by : West Java Skill Development Project / World Bank

WORKING EXPERIENCES

1. Company : **PT. ASRI UTAMA IP&S**
 Period : Feb 2021 – Present
 Position : Welding Inspector, Lifting Inspector & NDE Engineer
2. Company : **PT. TUV NORD Indonesia**
 Period : Feb 2017 – Jan 2021
 Position : Inspection Manager, Welding Inspector, Lifting Inspector & NDE Engineer
3. Company : **Phoenix QC Co. Ltd Thailand**
 Period : Apr 2011 – 2016
 Position : QA / QC Coordinator, Multi Disiplin Inspector
 Technical Consultant (Mechanical & Electrical, Static and rotating Equipment inspector) NDE Engineer.
4. Company : **PT. Kelsri Engineering Indonesia**
 Period : Jan 2011 – Apr 2011
 Position : QA / QC pipeline inspector & Radiographic Interpreter
5. Company : **PT. Gerbang Saranabaja Indonesia**
 Period : Sep 2010 – Jan 2011
 Position : QA / QC Welding & Electrical Inspector, Radiographic Interpreter
6. Company : **PT. OPI Indonesia**
 Period : Des 2009 – Aug 2010
 Position : QA/QC Coordinator, Welding Engineer, Inspector & NDE Engineer
7. Company : **PT. PGN (Indonesian Government Company)**
 Period : Nop 2008 – Des 2009
 Position : QA / QC Welding Inspector + Radiographic Interpreter
8. Company : **PT. YIN Consortium Indonesia**
 Period : June 2008 – Oct 2008
 Position : QA / QC Welding Inspector + Radiographic Interpreter
9. Company : **Kobe Steel LTD. Japan**

- Period : Sep 2007 – May 2008
 Position : QA / QC Coordinator + Radiographic Film Interpreter
10. Company : **PT. OPI Indonesia for Saipem Thailand**
 Period : Mar 2007 – August 2007
 Position : QA / QC, Welding Inspector
11. Company : **PT. Berlalu Karyaguna Indonesia**
 Period : Jan – Feb 2007
 Position : QA / QC Welding Inspector
12. Company : **PT. Marindotech Indonesia**
 Period : Sept – Dec 2006
 Position : QA / QC Coordinator, Welding Inspector + Radiographic Interpreter
13. Company : **PT. Medco Energi Indonesia**
 Period : Aug – Sept 2006
 Position : QA / QC Welding Inspector + Radiographic Interpreter
14. Company : **Geocean Marseille France**
 Period : May – Aug 2006
 Position : QA / QC Welding Supervisor & Radiographic Interpreter
15. Company : **PT. Wirabina Yasa Patrindo Indonesia**
 Period : October 2005 - May 2006
 Position : QA/QC Inspector, RT Level 2 & RI
16. Company : **PT. Megatek Konsindo Indonesia**
 Period : October 2003 – October 2005
 Position : QC Inspector, RT Level 2
17. Company : **OilField Pipeline Inspection Sdn. Bhd. Malaysia**
 Period : Dec 2000 – October 2003
 Position : QC Inspector, RT Level 1
18. Company : **PT. Radiant Interinsco Indonesia**
 Period : October 1996 – November 2000
 Position : QC, Assistant Radiographer
19. Company : **PT. Radiant Utama Drilling Company Indonesia**
 Period : 1995 - 1996
 Position : Well puller / Roughneck

PROJECT ASSIGMENT

PT. ASRI UTAMA IP&S

Feb 2021 – Present

Location: Indonesia

Inspection for various client both national and international client:

DESCRIPTION	VENDOR / LOCATION	SCOPE OF WORK
JUNCTION BOX AND CABLE TRAY	PT. BASUKI PRATAMA ENGINEERING Pulo Lentut 2 K.I.P 13920 Jakarta Timur Jakarta, Indonesia	Closed punch list material instrument as per MOM attached Closed punch list JB per MOM attached
PIPE SPOOL FOAM PACKAGE AND COMPANION FLANGE FIXED WATER MONITOR	PT. Prima Tunggal Javaland Jl. Iskandar Muda Rt.05 Rw.05 SewanKecamatan Neglasari Tangerang	Visual check, Line check, Review fabrication report, Witness Hydrostatic test
FM-200 EXTINGUISH SYSTEM	PT. Prima Tunggal Javaland Jl. Iskandar Muda Rt.05 Rw.05 SewanKecamatan Neglasari Tangerang	Visual check After Welding, Surface Preparation Painting, Visual Check Main Equipment
PIPING AIR INSTRUMENT & PIPING ISOMETRIC + SUPPORT	PT. BASUKI PRATAMA ENGINEERING Pulo Lentut 2 K.I.P 13920 Jakarta Timur Jakarta, Indonesia	Visual & Dimension Inspection
SHUTDOWN VALVE	PT Valve Automation Indonesia Delta Silicon 3, Industrial Park Jl. Cempaka blok F15 No. 8 Lippo Cikarang Bekasi, Indonesia	Inspection for Shutdown Valve
PUMP APPROVAL	PT. Ebara Indonesia Jl. Raya Jakarta-Bogor No.KM.32, Curug, Kec. Cimanggis, Kota Depok, Jawa Barat 16453, Indonesia	Auditing for NWC assessment
AIR BLOWER PACKAGE	PTI DELTA Jl. Gaharu, blok F5 No. 10B1, Cicau, Kec. Cikarang Pusat, Bekasi, Jawa Barat 17530	Material verifications of Air Blower Package
FOAM PACKAGE FIRE WATER MONITOR, AND FIRE WATER HOSE REEL	PT. Prima Tunggal Javaland Jl. Iskandar Muda Rt.05 Rw.05 SewanKecamatan Neglasari Tangerang	Final Inspection, Line Check, Check Thickness (DFT)

DESCRIPTION	VENDOR / LOCATION	SCOPE OF WORK
SULFUR CUSTODY WEIGHING SCALE	PT MUGI Jl. Tipar No 45 Cakung Cilincing Jakarta Timur, Indonesia	Visual Checking & Non-Destructive Test (NDT) SULFUR CUSTODY WEIGHING SCALE
FOAM PACKAGE	PT. Prima Tunggal Javaland Jl. Iskandar Muda Rt.05 Rw.05 SewanKecamatan Neglasari Tangerang	Closing Punchlist Inspection, Line check, Check Thickness (DFT)
POWER DISTRIBUTION MOV CRUDE & CONDENSATE PB 24 DP822251	PT. Navitas Indonesia Factory Jalan Narogong Raya Km 2 No. 8 Gunung Putri,Bogor, Jawa Barat	FAT
INLET HOUSE / FLOOR FRAME & FLOOR PANEL FILTER CASING	PT. FOSTA UNGGUL PERDANA Jl.Raya Pasar Kemis KM 0.7, Keroncong - Jatiuwung Tangerang 15134. Banten-Indonesia	Assembly inspection, Review of Material Test Report, Dimensional Inspection, Construction Inspection
WATER INJECTION TREATMENT PACKAGE - AIR BLOWER PACKAGE	PT DELTA Jalan Gaharu, Blok F5 No. 10B1, Cicau, Kecamatan Cikarang Pusat, Bekasi, Jawa Barat, Indonesia	Material Verification of Air Blower Package
SPOOL PIPE	PT Samator EPCM Cikarang Kawasan Industri Jababeka II Blok PP 4 A, Jalan Industri Selatan, Cikarang Selatan, Pasirsari, Cikarang Selatan, Bekasi, Jawa Barat, Indonesia	Hydrostatic Test for Spool Pipe
POWER DISTRIBUTION MOV CRUDE & CONDENSATE PB 24 DP822251	PT. Navitas Indonesia Factory Jalan Narogong Raya Km 2 No. 8 Gunung Putri,Bogor, Jawa Barat	FAT
HOSE & HOSE COUPLING	PT Loka Manggala Komplek Mutiara Taman Palem Blok A8 No 8, Cengkareng Timur, Jakarta Barat, Indonesia	Visual & Dimensional
PLAYGROUND INSPECTION	Jakarta Intercultural School Jl. Terogong Raya No.33, RT.3/RW.6, Cilandak, Jakarta Selatan, DKI Jakarta 12430	Annual Themepark Inspection

DESCRIPTION	VENDOR / LOCATION	SCOPE OF WORK
FRAME IN PLENUM (UPPER), SIDE PANEL (K1-K13), ACCESS DECK	PT. FOSTA UNGGUL PERDANA, Jl.Raya Pasar Kemis KM 0.7, Keroncong - Jatiuwung Tangerang 15134. Banten-Indonesia	Assembly inspection, Weld Test, Review of Material Test Report, Dimensional Inspection, Construction Inspection
RECUPERATOR RADIATION	PT Hidroflex Indonesia Cibinong	QA/QC Services
SDV BALL VALVE	PT Valve Automation Indonesia Delta Silicon 3, Industrial Park Jl. Cempaka blok F15 No. 8 Lippo Cikarang Bekasi, Indonesia	Function & Hydrotest
RACKING INSPECTION	PT Sanofi Aventis Pharma Jl. Jend. A. Yani, Pulo Mas, RT.4/RW.9, Kayu Putih, Kec. Pulo Gadung, Kota Jakarta Timur, Daerah Khusus Ibukota Jakarta 13210	Annual Racking Inspection
BLEED WATER TREATMENT PACKAGE - UNIT CONTROL PANEL (UCP)	PT. Transavia Otomasi Pratama Paramita Industrial Estate, Gunung Putri, Kab. Bogor.	Final Hardware Check
FRAME IN PLENUM (UPPER), SIDE PANEL (K1-K13), ACCESS DECK	PT. FOSTA UNGGUL PERDANA, Jl.Raya Pasar Kemis KM 0.7, Keroncong - Jatiuwung Tangerang 15134. Banten-Indonesia	Assembly inspection, Weld Test, Review of Material Test Report, Dimensional Inspection, Construction Inspection
CLA-VAL DELUGE VALVE WITH TRIM SIZE 4", QTY: 1 UNIT	PT. Maste Dayaa's Warehouse Jl. Jababeka XVII D, SFB Blok U-29-B, Kawasan Industri Jababeka Cikarang - Bekasi 17530	Hydrotest and Functional test
SULFURIC ACID FLUE GAS DUCT - LINE NO. 750602 SPOOL A AND B (316L) , LINE NO. 753503 SPOOL A (304H) , LINE NO. 754103 SPOOL F (304H)	PT. Hanazono Engineering Indonesia Jl. Raya Bojonegara Serdang No. 44 RT: 001/001 Kertasana, Bojonegara, Serang Banten 42545 Indonesia	Final Visual Dimensional & Pneumatic Test

PT. TUV NORD Indonesia

Feb 2017 – Jan 2021

Location: Indonesia

LAST 5 PROJECTS HELD:

1. Responsible for managing activity as Industrial Services Manager for asset integrity and investigation of the causes of fire in a chemical liquid factory in Banten province with 5 main variables of examination: Visual, PMI, UT Thickness, Penetrant Testing, Hardness Testing and Radiography - Banten
Period: 2020 to 2021 (completed)
2. Responsible for managing activity as Industrial Services Manager for provision of Third Party / FAT (Factory Acceptance Test) services for Supreme Energy Rantau Dedap geothermal power plant project (1x85 MW), Rantau Dedap, Sumatera Selatan
Period: 2019 to 2021 (completed)
3. Responsible for managing activity as Industrial Services Manager for provision of Construction Technical Expertise services for Supreme Energy Muara Laboh geothermal power plant project (2x40 MW), Solok Selatan, Sumatera Barat, main job is to monitoring construction progress as expediting job and all quality aspect according to international standard and local regulation.
Period: 2018 to 2020 (completed)
4. Responsible for managing activity as Industrial Services Manager for provision of Third Party / FAT (Factory Acceptance Test) services for Supreme Energy Muara Laboh geothermal power plant project (2x40 MW), Solok Selatan, Sumatera Barat
Period: 2018 to 2019 (completed)
5. Responsible for managing activity as Industrial Services Manager for NDT Inspection Services and Certification of 17 ride's at Dufan Ancol, including Disnaker certification of PAA and PUBT, Jakarta
Period: 2019 and 2020 (completed)

Main Responsibility:

Responsible for managing any inspection (Welding and Lifting) related to a company's construction or engineering department. Ensures that the inspection is completed according to contract protocols. Recommends corrective action when problems are detected. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others.

- ✓ Review Subcontractor drawing
- ✓ Review Equipment and loose accessories identification and availability.
- ✓ Review Manufacturer Instruction is available.
- ✓ Review Welding Procedure.
- ✓ Confirm All NDT Procedure approved (RT, UT, MT & PT).
- ✓ Review Confirm NDT Personnel Qualified and approved.
- ✓ Review Inspection & Test Procedure.
- ✓ Confirm Inspection Personnel Qualified and approved.
- ✓ Review Measuring and Test Equipment Calibration.
- ✓ Check material for mechanical damage.
- ✓ Check material for segregation and Storage.
- ✓ Check material Color Code.
- ✓ Check Material Test Certificate.
- ✓ Witnessed Repair of Weld Defect.

✓ etc...

THEME PARK AND AMUSEMENT INSPECTION

Performed Theme Park Inspection, especially Lifting Equipment and Electricity equipment at Kidcity and Trans Studio Group, carried out to evaluate the status of a unit in line with requirements of preparation for the yearly mandatory inspection.

Applied Standards and laws

- **EN 13814** *Fairground and amusement park machinery and structures – Safety (Europe)*
- **ASTM F2291-14** *Standard practice for design of amusement rides and devices*
- **GB 8408** *Amusement Devises Safety Code (Chinese Standard)*

Type of Observation:

Type 1: Deficiency (P1)	Action:
An observation is classified as type 1 if it leads to an unacceptable risk to persons, or if it leads to noncompliance with legal requirements	Immediate action is required. Permission to open to the public should be suspended immediately until the deficiency is corrected effectively
Type 2: Deficiency (P2)	Action:
An observation is classified as type 2, if it does not immediately lead to an increased risk to persons or non-compliance with legal requirements	Action required. An observation of type 2 does not lead to withdrawal of a valid certificate, but its delay prevails the issuing of a new certificate as long as the defect is not solved effectively.
Type 3: Deficiency (P3)	Action:
An observation is considered as type 3, if it does not lead to an increased risk to persons or noncompliance with legal requirements, but for example in reduced performance or reliability, excessive wear or pollution.	It is advisable to correct type 3 observations as soon as possible. If a type 3 point is not resolved, it may be considered during the next inspection as type 2

Assignment with Phoenix QC Thailand

Jan 2011 – 2016: Various Clients / Project in Indonesia

Nature of work: QA / QC Coordinator, Technical Consultant, Mechanical & Electrical Inspector, Static and rotating equipment inspector and NDE Engineer

1. FAT of 2 (two) units Oil Transformer 10MVA as ELECTRICAL INSPECTOR AT PT SCHNEIDER ELECTRIC INDONESIA
CLIENT: CMC MACHIPEX SDN BHD MALAYSIA
PROJECT: 1 x 1000 MW Manjung, Coal Fired Power Plant (Perak – Malaysia)
Main Duty;

Visual and Dimensional Checks

- Length, Depth, Width
- Painting
- Name Plate and Rating Plate

Electrical Test

- Insulation Resistance Test
- Transformation Ratio & Vector Group Test
- Resistance Winding Measurements
- Electric Strength of Oil Test
- No Load Losses & No Load Current Test
- Load Losses and Impedence Test

- Induce Over Voltage Withstand Test
- Applied Voltage Withstand Test

Function Check

- Control Panel and Cables Checks
- Temperature Test
- Door Lighting
- Noise Level Test

2. QA/QC Coordinator
 Project Name: Gulf JP UT Company U Thai (Thailand)
 Client Name: MHI (Takasago)
 Vendor Name: Hamon - PT. Inti Composite Figlasindo Utama (ICFU) Cikarang Indonesia
 Equipment: Cooling Tower Fan Stack
 - Dimensional and visual check compared with Purchase Specification and ITP
 - Painting Inspection
 - Trial Door Installation
 - Reviewed all procedure requirement & standard code
 - Reviewed all Drawing and ITP
 - Review handling and lifting procedure

3. QA/QC Inspector for GRP Piping and Fitting Inspection at PT. ORI Polytec Composites/ NOV-FGS Bekasi Indonesia - NOV-FGS Singapore
 Project Name: Gulf Nong Seang (Thailand)
 - Reviewed all procedure requirement & standard code
 - Reviewed all Drawing and ITP for each spool
 - Dimensional and visual check of pipes pool such as; diameter, length of pipe and the thickness, also check quantity compared to the vendor drawing for
 - BLIND FLANGE DN 600MM WITH LIFTING LUG
 - GRP CONCENTRIC REDUCER DN1000MMx750MM
 - GRP ELBOW 75 DN750MM
 - GRP ELBOW 90 DN750MM
 - GRP FLANGE DN1000MM
 - GRP FLANGE DN750MM
 - Witnessed package before shipment

4. PT. Induro International as QA/QC Inspector to Lloyd's Register Inspection Limited
 Project Name: Shenzen LNG Terminal (Guangdong – China)
 Equipment: Open Rack Vaporizers E-1101 A/B/C/D/E
 - Seawater Manifold 26"
 - Seawater header 10", 12"

Supplier Name: Kobe Steel, Ltd.

 - Material Inspection
 - Dimension and Visual Inspection Acceptance criteria based on ITP
 - Hydrostatic Test
 - Review document, Drawing, material certificates (SM 27 gr/m2 (P300 SA) Glass fiber surface tissue, CSM 450 gr/m2 (MC 450A – 186WS) Glass chopped strand mat, WR 600 gr/m2 Woven Roving, ERS 2310-839U/E-P Glass Fiber Roving, Ripoxy R-802 EX Vinyl Ester Ripoxy, Norsodyne 2625 (TI) Isophthalic Norsodyne)
 - Review pressure gauge certificates that used for Hydrostatic test

5. QA / QC Coordinator for Lin-Kou Power Boiler Project (Taiwan) under Mitsubishi Heavy Industries and JIC (Japan Inspection Company)

- Reviewed inspector daily report
 - Monitoring fabrication pressure part at PT. Cilegon fabricator Cilegon and PT Alstom Energy Surabaya.
 - Coordination with other department to improve the progress.
 - Review Daily, Weekly and Monthly report from field inspector, and distribute it to the client.
 - Solving the problem if any.
6. Coordinator of Electrical & Instrument Inspection at Wasco shop Batam Island and Siemens shop Jakarta
- Reviewed inspector daily report
 - HVAC Supports Fabrication, Dimensional / Visual / Fit-Up Check
 - HVAC Supports Installation Check
 - Coating and Insulation After Fabrication & Installation of Supports
 - HVAC Equipment Installation Check
 - Duct with Accessories Installation Check
 - Manufacturer's Standard Shop Test (Fat) For HVAC Equipment
 - HVAC Panel Installation / Gladding & Termination Check
 - Mc-Installation Check
 - HVAC Cable Resistance & Continuity Check
 - Loop Check, Operation Check
 - Final Visual Check
 - HVAC Performance Test
 - Preservation and Preparation for Shipment
 - As Built Drawing
7. Valve Inspection at Bekasi for Salamander Bravo Project (Thailand)
- Review and endorse material test certificates and test reports according to PO Requirement as detailed on ITP
 - Review MT, UT and RT report.
 - Verify vendor marked up drawing on identification of part which part with COC (certificate of compliance) and which part with MTC
 - Witness visual and dimensional inspection of valve body according to approved drawing
 - Verify valve identification and heat number
 - Witness hydrostatic test and pneumatic test according to approved procedures
 - Witness sandblasting and painting
 - Issue Inspection Release Certificates
8. QA/QC Coordinator and Expeditor pre shipment materials at PT. Toyo Kanetsu Indonesia Batam Island, for Abu Dhabi Oil Refining (Takreer) RUWAIS REFINERY EXPANSION PROJECT
- Reviewed inspector daily report
 - Reviewed procedure requirement & standard
 - Monitoring Welding Inspection activities
 - Check daily progress and status
 - Reviewed inspector daily report
 - Participates and communicated with management, other departments, and clients and out sources to improve the progress
9. Coordinator Repair Inspection of Steam Turbine for Condensate pump at PT Dresser Rand Services Cilegon (Ruweis-3 Project UAE)
- Reviewed inspector daily report
 - Monitoring Disassembly the Rotor
 - Check Balance the Rotor
 - Witness Final NDT the Rotor

- Install New Bearing Housing and Bracket to Casing Check
- Alignment The Casing and Bearing Housing Re-Dowel Check
- Monitoring Installation Rotor to the Casing
- Check Axial Float and the Clearance
- Monitoring Install Carbon Seal and Set Axial Thrust
- Witness Re-Paint the Casing
- Final Inspection and Compile Report
- Preparation for Shipment

10. Deep Well Pump / Submersible Pump FAT at PT Andalan Inti Rekatama / PT Grundfos Pompa, Senoro Gas Development Project

Visual Inspection on all submersible pumps:

- Identification
- Tag name plate
- QC Pass Check
- Packing, Marking and Handling sign.

Performance test

- Amperage
- Voltage
- Flowrate
- Etc...

11. Water Pump Inspection for Chillaw Putallam Project (Srilangka) at PT Ebara Indonesia.

Duties:

- Reviewed mill certificates of material used for construction of pumps and certify the mill certificates.
- Reviewed manufacturer's documents and certified that the product is meet the requirements specified in the approved Technical Schedules.
- Verified dimensional test compared with shop drawings
- Visual inspection for defects and damages
- Witness pump performance test according to approved FAT procedure.
- Reviewed Hydrostatic and Leakage Test
- Witness painting inspection and Coating
- Witness and Review Running test report.

Sep 2010 - Jan 2011 : PT. Gerbang Saranabaja Indonesia

(Client PT Yudhistira Energy for Pertamina LPG Plant, Pondok Tengah Field Bekasi)

Nature of work : QA / QC Inspector and Radiographic Film Interpretation

- Reviewed procedure requirement & standard code ASME- VIII Div 2, ASME B.31.3, API 650, and API 1104
- Monitoring Welding Inspection activities
- Check daily progress and status
- Reviewed daily reporting
- Monitoring Hydrostatic test of Pipeline, Spherical tank and pipe spool per line system, including fitting (retest of valve, elbow, reducer, tee, flange etc.)
- Monitoring and review NDT documents
- Participates and communicated with management, other departments, clients and out sources to improve the progress

Dec 2009 - Aug 2010 : PT. OPI Indonesia (NDT Company)

Nature of work : Welding Inspector for various client at Batam Island
NDE Engineer

Nov 2008 – Des 2009 : Perusahaan Gas Negara (PDJB Project)

- Job description : QA / QC Inspector and Radiographic Film Interpretation
- Reviewed procedure requirement, standard & code ASME B.31.8 & API 1104.
 - Monitoring Welding Inspection activities
 - Check daily progress and status
 - Reviewed daily reporting
 - Radiographic Film Interpretation

June 2008 – Oct 2008 : PT. YIN Consortium for PDJB Project.

- Nature of work : QA / QC Inspector for:
- *Welder Test as per API 1104, ASME B.31.8 and Client spec*
 - *Pipeline Project, Various locations in Jakarta and west java.*
 - *Monitoring welding activities at all of sub-contractor*
 - *Hydrostatic test package of various location pipeline*
 - *Witness Flushing, Cleaning and N2 Purging.*
 - *Collecting all related documents and data*
 - *Witness pre commissioning*

Sep 2007 – April 2008 : Kobe Steel LTD Japan

(Upgraded Brown Coal Plant Project)

- Job description : QA / QC Supervisor and Inspector
- Reviewed procedure requirement & standard code ASME VIII, ASME IX, ASME B.31.3, API 650, API 653, and AWS D.1.1.
 - Check and monitoring material consumable and handling storage of all income material at warehouse.
 - Monitoring Welding Inspection activities
 - Check daily progress and status
 - Reviewed daily reporting
 - Performing Mechanical inspection and evaluation
 - Monitoring and witness hydrostatic test of storage tank and line pipe.
 - Witness pneumatic testing on all manhole plate.
 - Witness corner testing of storage tank
 - Participates and communicated with management, other departments, Clients and out sources to improve the progress

April – August 2007 : Saipem Thailand (New Offshore Crude Oil Unloading Facilities).

- Nature of work : QA / QC Inspector for:
- *Welder Test as per API 1104 and Client spec, at **Batam Island.***
 - *Pipeline Project, 52", 14 Km at **Sriracha Thailand.***
 - *Fabrication Calm Buoy, at **Batam Island.***
 - *Witness Hydrostatic test and pneumatic testing of fabrication tank, pipe spool, line system, valve and fitting at Batam Fabricator Batam Island.*

- Job description :
- ✓ *Before welding inspection:*
Check & Marking weld joint number, welder ID number; ensure dimensional check (circumference, ovality, Straightness, local dent end of bevels. End perpendicularity and length)
 - ✓ *During welding inspection:*

- Check welding Parameter, ampere meter, voltage, travel speed, gas flow, gas mix etc. (GMAW / Passo system)
- ✓ **After complete welding inspection:**
All welding 100% Visual inspection acceptable reinforcement, undercutting within tolerance to pipeline according to API 1104, and client specification inspection.

January - Feb 2007 : LIKPIN Consortium

Nature of work : QA / QC Welding Inspector.

Job description : Fabrication "A" Frame and Bear Clamp for 32" SSWJ Phase 2 Offshore Pipeline Project (Tie-in) at PT. DMB Workshop and Eka Nuri (Uni haul barge), including sea fastening.

- ✓ **Before welding inspection:**
Check & Marking weld joint number, welder ID number; ensure dimensional check (Straightness, local dent end of bevels. End perpendicularity and length) of steel structure shall be conform to AWS D1.1 standard, and the following tolerance, which are mentioned in client specification. Check preheats according to WPS.
- ✓ **During welding inspection:**
Check ampere meter, voltage, and electrode with use the welder during weld and storage (oven) consumable material electrode. Monitoring welding activity.
- ✓ **After complete welding inspection:**
All welding 100% Visual inspection acceptable reinforcement, undercutting within tolerance according to standard AWS D1.1 and 100% MPI inspection. Record consumable symbol, NDT record. NDT when required, check NDT personnel, and NDT report.

Oct – Des 2006 : CNOOC Offshore

Nature of work : Radiographic Interpreter and Welding Inspector.

Job description : Maintenance various project at offshore platforms, include Interpretation of radiography film.

Aug - Oct 2006 : PT. Medco Indonesia

Nature of work : QA/QC Coordinator and NDT Supervisor & Radiographic interpreter

May – Aug 2006: PT. Geocan Indonesia for Nippon Steel Japan

Nature of work : QA / QC Coordinator SSWJ Offshore Pipeline Project.

Job description :

- ✓ **Before welding inspection:**
Check & Marking weld joint number, welder ID number, ensure dimensional, shall be conform to API standard, DNV standard, and the following tolerance, which are mentioned in client specification. Pipe spool fit up and installation: check pipe run alignment.
- ✓ **During welding inspection:**
Check ampere meter, voltage, and electrode with use the welder during weld and storage (oven) consumable material electrode. Monitoring welding activity.
- ✓ **After complete welding inspection**
All welding 100% Visual inspection.

Oct 2005 - May 2006 : PT. Medco Indonesia

Nature of work : QA/QC Coordinator and NDT Supervisor & Radiographic interpreter for

pipeline Project & maintenance, South Sumatera Indonesia

July – Oct 2005 : PT. Thiess Indonesia

- Nature of work : Radiographic film interpreter, conduct radiography Testing for pipeline project 15" condensate, south Sumatera Indonesia.
- March – June 2005** : **PT. Conoco Phillip Indonesia**
 Nature of work : Radiographic film interpreter and radiography testing for pipeline Suban – Grissik 32" 43km, south Sumatera Indonesia.
- Oct 2004 - Jan 2005** : **PT. Riau Pulp and Paper Indonesia**
 Nature of work : Conduct radiography testing and film Interpretation for Power Boiler Plant Project, Kerinci Sumatera Indonesia. As per ASME 1, Boiler and Pressure vessel
- July - Oct 2004** : **PT. H & H Utama International Indonesia**
 Nature of work : Conduct radiography testing fabrication for Total E&P, PCK 4 EPSC 2 Project, Balikpapan, East Kalimantan Indonesia.
- May - July 2004** : **PT. Punjloyd Indonesia**
 Nature of work : Conduct radiography testing for Total E&P, PCK 4 EPSC 3 Project, Senipah, East Kalimantan Indonesia.
- March - May 2004** : **PT. Citra Panji Manunggal (CPM)**
 Nature of work : Conduct radiography testing pipeline nearshore for Saipem, PCK 4 EPSC 2 Project, Senipah, East Kalimantan Indonesia.
- Oct 2003 - Feb 2004** : **PT. Sempec Indonesia**
 Nature of work : Conduct radiography piping testing for Total FinaElf, PCK 3 EPSC 2 Project, Senipah, East Kalimantan Indonesia.
- July - Oct 2003** : **PT. Gunanusa Fabricator Indonesia**
 Nature of work : Conduct radiography testing fabrication for Total E&P, PCK 4 EPSC 2 Project, Cilegon, West Java, Indonesia.
- 2003** : **PT. Texmaco Perkasa Engineering Indonesia**
 Nature of work : Conduct radiography testing fabrication, for various Products, Cikampek West Java, Indonesia.
- 2003** : **PT. Rekayasa Industri Indonesia**
 Nature of work : Conduct radiography testing CO2 Removal station for PT Pertamina Indonesia, Subang, and West Java, Indonesia.
- 1997 – 2000** : **PT. Caltex Pacific Indonesia**
 Nature of work : Conduct radiography testing fabrication for pipeline and Various Project, Duri Riau, Indonesia.
- 1995 – 1997** : **PT. Caltex Pacific Indonesia**
 Nature of work : Rig Drilling team, RU # 06 as Wellpuller, Duri Riau, Indonesia.

LAMPIRAN 10 – *Paper Similarity Check*



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Performance Management System Design of Inspection Bodies in Indonesia Menggunakan Metode *Analytical Hierarchy Process*

(Perancangan Sistem Pengukuran Kinerja Lembaga Inspeksi di Indonesia Menggunakan Metode *Analytical Hierarchy Process*)

Saefulah

Industrial Services Department, PT Asri Utama Inspeksi Pengujian Sertifikasi Indonesia
Corresponding author: saeful.geo@gmail.com

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Abstrak. Demi meningkatkan pertumbuhan ekonomi melalui pembangunan infrastruktur di Indonesia, Pemerintah setuju untuk meningkatkan proyek-proyek strategis dengan urgensi tinggi untuk diimplementasikan dalam jangka pendek. Total investasi proyek yang mencapai Rp. 4.183 Triliun haruslah dikontrol dan dikelola dengan baik, disini Lembaga Inspeksi dibutuhkan. Jumlah Lembaga Inspeksi di Indonesia yang terdaftar di Komite Akreditasi Nasional (KAN) berjumlah 169 Lembaga. Dari total Lembaga Inspeksi tersebut ternyata yang aktif dan memiliki sertifikat ISO 17020 yang masih berlaku adalah 120 Lembaga, sementara 44 Lembaga Inspeksi lainnya telah dicabut izin operasionalnya dan 5 Lembaga Inspeksi lainnya dibekukan. Melihat fenomena ini timbul pertanyaan, mengapa 26% dari total seluruh Lembaga Inspeksi di Indonesia dicabut izin operasionalnya dan 3% lainnya dibekukan?. Padahal keberadaan Lembaga Inspeksi ini sangat strategis dan dibutuhkan dalam membantu mengawasi pelaksanaan proyek pembangunan nasional, terlebih dengan potensi keuntungan yang besar, yaitu 1% dari nilai total proyek nasional?. Penelitian ini menggunakan metode penerapan Balanced Scorecard dengan pembobotan Analytical Hierarchy Process (AHP), hasil pengukuran kinerja pada perusahaan jasa inspeksi pada tahun 2020, yang terbesar adalah kinerja keuangan, urutan kedua adalah kinerja pelanggan sebesar, pertumbuhan dan pembelajaran dengan skor berada di urutan ketiga, dan urutan terakhir yaitu proses bisnis internal. Rata-rata pencapaian kinerja perusahaan jasa inspeksi adalah 57,76% artinya kinerja perusahaan/lembaga inspeksi saat ini masih belum cukup baik. Untuk menguji kepuasan karyawan dilakukan dengan kuisioner terhadap 23 responden dari 4 perusahaan inspeksi, dipilih secara acak dari berbagai jabatan dari manager hingga inspector lapangan, hasilnya masih relatif baik yaitu 3.99 dari skala 5.

Kata kunci: ISO 17020, Balanced Scorecard, Peningkatan Kinerja.

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Abstract. In order to increase economic growth through infrastructure development in Indonesia, the Government has agreed to increase strategic projects that are urgent to be implemented in the short term. The total project investment which reaches Rp. 4.183 Trillion must be controlled and managed properly, this is where the Inspection Body is needed. The number of Inspection Bodies in Indonesia registered with the National Accreditation Committee (KAN) is 169 institutions. Of the total inspection bodies, 120 are active and have ISO 17020 certificates, while 44 other inspection bodies have their operational licenses revoked and 5 other inspection bodies have been suspended. Seeing this phenomenon, the question arises, why 26% of the total inspection bodies in Indonesia have their operational permits revoked and the other 3% are frozen? Whereas the existence of this Inspection Agency is very strategic and needed in assisting the supervision of the implementation of national development projects, especially with the large potential benefits, namely 1% of the total value of national projects? This research uses the Balanced Scorecard with Analytical Hierarchy Process (AHP) weighting, the results of performance measurement at inspection service companies in 2020, the high score is financial performance, second place is customer performance, at learning and growth is in third place, and the last position is internal business processes. The average score of the inspection service company's performance is 57.76% which means that the performance of the inspection body/company is currently not good. To test employee satisfaction, a questionnaire was conducted on 23 respondents from 4 inspection companies who were randomly selected from various positions ranging from managers to field inspectors, the results were still quite good, namely 3.99 from 5 scale.

Keywords: ISO 17020, Balanced Scorecard, Performance Improvement.

1 Foreword

The Government of Indonesia through the Priority Infrastructure Provision Committee (KPIIP) selected a list of projects that were considered strategic and urgently needed and facilitated the project implementation. By providing this facility, they hoped the strategic projects could be implemented quicker (Komite Percepatan Penyediaan Infrastruktur Proyek, 2020).

In the Middle of 2016 to early 2017, evaluation and selection of strategic projects and mechanisms for accelerating its development had been carried out. The results of the evaluation and selection are contained in Presidential Regulation No. 58 of 2017 regarding the amendment to Presidential Regulation No. 3 of 2016 regarding the Acceleration of National Strategic Projects Implementation.

KPIIP's National Strategic Project (PSN) Evaluation and Selection was began in August 2016 and completed at the KPIIP Ministerial Meeting on February 10, 2017. The results of the process were reported to the President in April 2017.

Based on the Presidential Regulation No. 58 of 2017 regarding the amendment to Presidential Regulation No. 3 of 2016 regarding the Acceleration of National Strategic Project Implementation, it was decided that 245 National Strategic Projects (PSN) plus 2 programs, i.e the electricity program and the aircraft industrial program (Komite Percepatan Penyediaan Infrastruktur Proyek, 2020)



Picture 1. National Strategic Project
Source: (Komite Percepatan Penyediaan Infrastruktur Proyek, 2020)

For a total of 235 projects and 2 programs that included in the PSN list, a total estimation financing in the amount of Rp. 4,197 Trillion is needed with funding sources coming from the State Budget in the amount of Rp. 525 Trillion, from BUMN/D in the amount of Rp. 1,258 Trillion, and from Private in the amount of Rp. 2,414 Trillion.

However there was a change based on Presidential Regulation No. 56 regarding the amendment to Presidential Regulation No. 58 of 2017, it was decided a change to be 223 National Strategic Projects (PSN) plus 3 programs, i.e the electricity program and the aircraft industrial program as well as economic equality.



Picture 2. Change of National Strategic Project Scheme
Source: (Komite Percepatan Penyediaan Infrastruktur Proyek, 2020)

The total project investment that reaches Rp. 4,183 Trillion must be controlled and managed properly for its use and absorption, the activities of the Inspection Body or supervision is needed here. The wide scope of inspection covers almost all project activities, from construction of road infrastructure, construction of electric railways, construction of building project, housing, until port construction and power plant construction, all of them must be supervised by a third-party, in this case the Inspection Body.

According to the Chairman of the Indonesian Inspection Companies Association (APITINDO), Rudiyanto, the average value obtained by his association members is around 1% of the total project value (Kontan.co.id, 2018). If the value of the national strategic project reaches Rp. 4,183 Trillion, meaning that 1% of that amount is Rp. 41 Trillion, a quite-large amount that can be enjoyed by all members of the Inspection Bodies Association.

The number of Inspection Company or Inspection Body in Indonesia that registered in the National Accreditation Committee (KAN) as Inspection Bodies in accordance with ISO 17020 standard are 169 companies/Bodies. From 169 Inspection Bodies, it turns out only 120 companies that still active and have valid ISO 17020 certificates, while 44 other Inspection Bodies have their operational license revoked and 5 other Inspection Bodies are suspended.

Table 1. List of Inspection Bodies registered by KAN

LIST OF INSPECTION BODIES IN INDONESIA	
Total of Active Inspection Bodies	120
Total of Suspended Inspection Bodies	5
Total of Revoked-License Inspection Bodies	44

Source: (KAN, 2020)

Looking at the phenomenon in the table above, the question arises, why 44 Inspection Bodies, equivalent to 26% of the total number of Inspection Bodies in Indonesia, have their operational permit revoked, and the other 3%, that is 5 Inspection Bodies, are suspended, what has really happened?. Even though the existence of these Inspection Bodies are very strategic and needed to help supervising the implementation of national development projects, especially with the potential of quite-large profit, namely 1% of the total value of national project?

2 Theoretical Study

Today's measurement of inspection body performance generally still uses traditional measurement which focuses on the financial side only. As time goes by, where the development of the business world is increasingly modern, dynamic, and wide open in the global competition, it is not sufficient if the performance measurement only focuses on the financial side, a more thorough and comprehensive company performance assessment is needed. In the theory of Balanced Scorecard (Kaplan, Robert S; Norton, 1992) states that to obtain good financial performance result, non-financial performance also needs to be considered, because financial performance result also

closely relates to non-financial performance. If the non-financial performance has increased significantly, the financial performance will also increase itself.

According to (Mulyadi, 2014), by conducting a company's performance assessment, it is hoped that can help the company to evaluate whether the implemented company's performance has been in accordance with the initial planning properly or not yet.

The performance evaluation model, and the stages to do it thoroughly are contained in the Balance Scorecard approach model (Paul R. Niven, 2008). According to him, the Balanced Scorecard provides a management framework that capable of translating organizational strategy into interrelated measures. These interrelated measures can be seen through the 4 perspectives contained in the Balanced Scorecard. The 4 perspectives contained in the Balanced Scorecard are: 1) Financial Perspective, to answer the question of how to achieve financial success, how the company should be seen by its shareholders, and etc; 2) Customer Perspective, which is used to answer the questions in achieving the company's vision, how the company should be seen by its customers, and etc; 3) Internal Process Perspective, used to answer the question of how to satisfy shareholders and customers of the company, in which business process the company must be excellent; and 4) Learning and Growth Perspective, used to answer the question of how to achieve the company's vision and mission, how the company should maintain its existence and its ability to change and improve itself.

According to (Sari & Arwinda, 2015) in their research at the Jamsostek Belawan Medan branch using the Balance Scorecard method, that by measuring the company's performance properly and honestly, it can be used as the basis for the strategy that the company will set in the long-term. The calculation result of the company's Balanced Scorecard got a total score of 56.25% in the 5%<TS<65% category, this condition, according to the criteria table, was in poor condition. This research method was in line with (Winardi et al., 2019) where the Balance Scorecard can also be used for performance analysis at a gas turbine repair service company, PT. Kidang Kencana Sakti, where the result were company performance indicators found, namely; that the weight of each indicator for the financial perspective was 31%, the customer perspective was 45%, the internal business process perspective was 15%, the learning and growth perspective was 9%. With this result, the highest weight score of the result of this study was coming from the customer perspective.

According to (Maylangi Sitorus et al., 2017), the use of Balanced Scorecard is very appropriate to develop the organizational strategies in an effort to improve organizational performance in facing global competition, from performance measurement in an organizational at Poris Indah High School using the Balanced Scorecard has provided an overview of the overall performance of the organization. The result of performance measurement of the financial perspective at this school were found in the economic, effective, and efficient categories. The result of customer perspective performance measurement also had a very satisfied category, which included facilities, infrastructure and school reliability. The results of performance measurement of the internal business processes perspective were in accordance with government regulations, however, it was found that the services for alumni were still in poor category.

In research at a sugar factory at PT Madubaru, (Susetyo, 2014) using the Balanced Scorecard method found that: 1) The benchmark that underperformed including Working Capital Turn Over (WTCO) with an average of 19.80%. 2) 30 Key Performance Indicators were identified that can describe the condition of the company. 3) the weighting result of the Key Performance Indicators for the company's stakeholders could be seen in the order of priority, i.e: customer stakeholder, investment stakeholder, labor stakeholder, supplier stakeholder, and community stakeholder.

This theoretical study and previous research are similar as expressed by (Taufik et al., 2021) in the literature review, this gives us a lot of information about the result and performance achievement of planning and implementing the Balanced Scorecard that has been prepared previously. So on the basis of theory and previous research, we are expected to be able to make estimation where the company needs adjustment to planning activities in an effort to control the company on an ongoing basis.

3 Method

The Balanced Scorecard is a system that allows organization to multiply the benefits and advantages of a better service at one time through performance measurement from various aspect. The Balanced Scorecard combines several performance measurements, namely financial side with operation and customer. According to (Kaplan, Robert S; Norton, 1992), The purpose of Balanced Scorecard is to measure organizational performance which can be viewed from four aspects, which are: *customer*, internal organizational process, learning and growth innovation, as well as from the financial side.

In this research using BSC, which was to measure company performance, 4 main perspectives were used, they were financial variable, customer variable, business process variable, and learning variable, that can be described as follows:

3.1. Financial Variable

The financial aspect performance indicator is selected as a strategy that generally reflects the profit and wealth of the organization, i.e the fund availability, the ability to pay debts, and whether investment realization has been as expected. These things will help shareholders and organizational leaders in making decisions regarding the financial strategy. (Soemohadiwidjojo, 2015). The financial aspect performance indicators in this study used 3 (three) strategies, which were: Profitability Ratio, Liquidity Ratio, and Effectiveness Ratio.

3.2. Customer Variable

Customer Perspective according to (Sousa et al., 2020) is a perspective oriented to customer satisfaction because they are the consumer of services produced by the organization. In other word, "the organization must pay attention on what the customers want". The customer perspective in the Balanced Scoreboard identifies how the condition of their customers and the market segment that the company has selected to compete with their competitors. The segment that they have selected reflecting the existence of these customers as their source of income. In this perspective, measurement was carried out using 5 (five) main indicators, because these five indicators reflected the performance of the Marketing Department. The five indicators were new customer, customer retention rate, number of customer complaint, customer growth rate and average sales.

3.3. Internal Business Process Variable

Internal Business Process perspective is a series of activities that exist within the organization to create service quality in order to meet customer expectation (service excellence). This perspective describes the business process that managed to provide services and values to shareholders and customers. In this perspective, the company measures all activities that have been carried out by the company, either managers or employees to create a service that can provide certain satisfaction to customers and shareholders.

In this case, according to (Hendrayanti, 2019), the company focuses on 5 (five) main business processes because these five were the main focus of improvement for the internal company and a problem that often occurred within the company. The five indicators are: number of new service (scope of service extension), on time lead time, number of service defect, number of repetitive work (re-work), and on time delivery.

3.4. Learning and Growth Variable

Learning and Growth perspective (the process of learning and growth), is "describing the ability of the organization to make improvement and change by utilizing the internal resources of the organization.". The continuity of an organization in the long-term according to (Dewantara & Amopa, 2017) highly depends on this perception (human resources). A perspective that assesses how important it is for a business organization to continue to pay attention on its employees, monitor employees' welfare and improve employees' knowledge. In this perspective, there are 5 (five) important categories that must be considered for measurement because these five things are important indicators for the sustainability of the company. The five indicators are employee satisfaction index, carrying capacity of technology, employee turnover rate, average overtime cost, and employees' attendance level.

Data collection technique uses the primary and secondary data, the primary methods are; 1) Observation method, which is the method of collecting data by observing and making direct observation on business process and all company activities. 2) Interview method, by asking question directly (question and answer) with company management, i.e Director, Manager, Shareholder, and interview with company's field officers and inspectors. 3) Questionnaire method, is a set of questions that logically relate to the research problem and each question has answers that have meaning in testing the hypothesis. Meanwhile, the secondary data are; Financial report data, customer data, employee data, operational cost data and overtime cost data.

Employee Satisfaction Index, which is measured using a questionnaire that distributed to all employees from supervisor to operator level. This questionnaire was developed by (Cellucci & Lories, 1978) in "Measuring Managerial Satisfaction A Manual for the MJSQ Technical Report II" (Center for Creative Leadership) by having a focus on salary satisfaction, promotion, co-worker, superior and job, as in table 2 below.

Table 2. Variable, Dimension, and Indicator of the Employee Satisfaction Questionnaire

VARIABLE	DIMENSION	INDICATOR	QUESTION ITEM
Employee satisfaction	Satisfaction with salary	Salary, allowance, and bonus are as expected	Question No. 1-5
	Satisfaction with promotion	Have a career ladder	Question No. 6-10
	Satisfaction with co-worker	Have support from co-worker	Question No. 10-14
		Able to have teamwork with co-worker	
	Satisfaction with superior	Get attention and support from superior	Question No. 15-19
Satisfaction with job	Having motivation		
		Enjoying the job, loyalty to the company	Question No. 20-24

Before making a measurement, performance measurement design is carried out first in order to form a performance measurement model that is in accordance with the requirement by the Inspection Body. The stages of designing performance measurement include the perspective of the Balanced Scoreboard, the Strategic Objective of the Inspection Body, identification of business process, and the formulation of Key Performance Indicators (KPIs).

Strategic Theme		Strategic Objective	
Financial Theme	Revenue Growth	Financial Theme	<ul style="list-style-type: none"> ▪ Return on Equity (ROE) ▪ Return on Investment (ROI) ▪ Cash Ratio ▪ Current Ratio ▪ Inventory Turn Over / ITO
Customer	Market Share Growth	Customer	<ul style="list-style-type: none"> ▪ On time delivery ▪ Increase of new customer ▪ Decrease of customer complaint ▪ Growing of Customer Growth Rate ▪ Decrease the Customer Retention Rate
Internal Business Process	Operational Excellent	Internal Business Process	<ul style="list-style-type: none"> ▪ Sales of Account Officer (AO) ▪ Number of new services ▪ On time lead time ▪ Decrease of second-class product ▪ Decrease of re-work product
Learning and Growth	Human Resource Capability	Learning and Growth	<ul style="list-style-type: none"> ▪ Employee Satisfaction Index ▪ Decrease of employee turnover ▪ Overtime cost reduction ▪ Decrease of attendance level ▪ Procurement of ERP software & Computer Equipment ▪ HR training

Picture 3. Strategic Theme and Strategic Objective

In the designing process, the Strategic Theme and Strategic Objective are grouped into four Balanced Scorecard perspectives. Strategic Theme is the main objective of each perspective that will be carried out to achieve the Inspection Body's mission. Strategic Theme in each perspective makes it easier to determine Strategic Objective.

The Strategic Theme that used in each perspective includes Revenue Growth (Finance), Market Share Growth (Customer), Service Excellence (Internal Business Process), and Human Resource Capability (Learning and Growth). The determination of Strategic Theme refers to the main superior programs of the Inspection Body.

Balanced Scorecard perspective according to (Kaplan, 2009) always has a perspective that becoming priority goal. The Inspection Body sets the customer's perspective as a priority goal. The inspection Body's program has the responsibility to contribute to the company's profitability, therefore from a finance perspective, it also gets special attention in preparing the map of company's strategy.

In the early stage of making the design for the performance planning of the inspection body, a Strategic Theme is grouped for each perspective. The Strategic Theme has a function as a guide for determining the Strategic Objective. The selection of Revenue Growth and Increase Market Share strategy as a Strategic Theme from a financial perspective and a customer perspective is based on the general vision of the Inspection Body Company, namely Integration Expansion and Growing business portfolio.

Based on the results of interview with the expert of Inspection Body, the both perspectives are two priority perspectives. Referring to the current global condition of the company, where the company is struggling to increase revenue amid business competition and national economic recession condition due to the COVID 19 pandemic. This research was conducted on 1 (one) Inspection Companies in Jakarta, in the period of Januari 2020 to December 2020. Using face-to-face health protocol that regulated by the government and through the online meeting, and using an electronic system for filling the forms.

The Inspection Body's company objective was to capture the largest number of market at the beginning. For the Internal Business Process perspective, the selected Strategic Theme was Operational Management Excellence with all operational processes related to internal and external stakeholder of the company. The Inspection Body could run smoothly without any obstacles and distractions. From the perspective of Learning and Growth, the selected Strategic Theme was Human Resource Capability. From the perspective that shelters the resources at the Inspection Body, it was hoped that it would produce human resources who had competence in their respective field so that they would be able to carry out the work professionally.

In selecting a strategy, thing needs to be considered is the conformity with the vision and mission of the Inspection Body. From various data such as strategic planning and the result of preliminary interview with 4 (four) experts of the Inspection Body's management, so that the company's strategic objectives are drawn up as in Table 3 below.

Table 3. The 9 (Nine) Strategic Objectives of Inspection Body

VARIABLE	STRATEGIC OBJECTIVE
Finance	K1 Increase profitability ratio
	K2 Improving liquidity ratio
	K3 Increase effectiveness ratio
Customer Performance	P1 Customer satisfaction
	P2 Sales effectiveness
Internal Business Performance	B1 Innovating (development of new services)
	B2 Increase efficiency
Growth and Learning Performance	T1 Increase the productivity of human resources (HR)
	T2 Have a commitment and support for technology and systems

Source: PT ASRI UTAMA IP&S Management Vision & Mission (2019)

To measure the performance of the Inspection Body with the Balanced Scorecard, a series of provisions that indicate the objective, benchmark, target, and assessment scale were needed. The used assessment scale was a Likert scale, with the determination of the assessment are: Score 5:

Very good, Score 4: Good, Score 3: Average, Score 2: Bad, Score 1: Very bad. In measuring the performance using the interval scale that applied by four managements of Inspection Body, the KPI assessment scale is almost relatively the same, the KPI from PT ASRI UTAMA IP&S is shown in the following table.

Table 4. Financial Ratio Measurement Scale

SCALE	CATEGORY	SCORE
KPI.1 – Return on equity turn over	ROE increasement 95,26%	5
	ROE increasement 16-24%	4
	ROE increasement 11-15%	3
	ROE increasement 6-10%	2
	ROE increasement of 0-5%	1
KPI.2 – Return on investment turn over	ROI increasement > 25%	5
	ROI increasement 20%	4
	ROI increasement 15%	3
	ROI increasement 10%	2
	ROI increasement 5%	1
KPI.3 – Cash ratio increasement	Cash ratio increasement > 25%	5
	Cash ratio increasement 16-25%	4
	Cash ratio increasement 11-15%	3
	Cash ratio increasement 10-6%	2
	Cash ratio increasement 0-5%	1
KPI.4 – Current ratio increasement	Current ratio increasement > 25%	5
	Current ratio increasement 16-25%	4
	Current ratio increasement 11-15%	3
	Current ratio increasement 6-10%	2
	Current ratio increasement 0-5%	1
KPI.5 – Inventory turn over - ITO	ITO increasement > 2,30	5
	ITO increasement 2,21-2,30	4
	ITO increasement 2,16-2,20	3
	ITO increasement 2,11-2,15	2
	ITO increasement 2,10	1
KPI.6 – Total aset turn over - TATO	TATO increasement > 30%	5
	TATO increasement 25%	4
	TATO increasement 20%	3
	TATO increasement 15%	2
	TATO increasement 10%	1

Source: PT ASRI UTAMA IP&S Management Decision Division Data (2019)

Table 5. Customer Measurement Scale

SCALE	CATEGORY	SCORE
KPI.7 – On time delivery	Earlier delivery	5
	On time delivery 96 – 100%	4
	On time delivery 91 – 95%	3
	On time delivery 88 – 90%	2
	On time delivery 87%	1
KPI.8 – New customer increasement	New customer increasement > 20	5
	New customer increasement 16-20	4
	New customer increasement 11-15	3
	New customer increasement 6-10	2
	New customer increasement 0-5	1

SCALE	CATEGORY	SCORE
KPI.9 – decrease number of customer complaint	Number of customer complaint 0 – 5	5
	Number of customer complaint 6 – 10	4
	Number of customer complaint 11 – 15	3
	Number of customer complaint 16 – 20	2
	Number of customer complaint 21 – 25	1
KPI.10 – Growing of Customer Growth Rate	Growth Rate > 40%	5
	Growth Rate 31-40%	4
	Growth Rate 21-30%	3
	Growth Rate 11-20%	2
	Growth Rate 5-10%	1
KPI.11 – Minimize the Customer Retention Rate	Level of Customer Retention Rate 0 – 5%	5
	Level of Customer Retention Rate 6 – 10%	4
	Level of Customer Retention Rate 11 – 15%	3
	Level of Customer Retention Rate 16 – 20%	2
	Level of Customer Retention Rate 21 – 25%	1

Source: PT ASRI UTAMA IP&S Management Decision Division Data (2019)

Table 6. Internal Process Business Measurement Scale

SCALE	CATEGORY	SCORE
KPI.12 – Increase the average sales of Account Officer (AO)	Sales of AO > 9.000.001	5
	Sales of AO 8.500.001 – 9.000.000	4
	Sales of AO 7.500.001 – 8.500.000	3
	Sales of AO 6.500.001 – 7.500.000	2
	Sales of AO 5.000.000 – 6.500.000	1
KPI.13 – Increase number of new service	Number of new service > 20	5
	Number of new service – 20	4
	Number of new service 5 – 10	3
	Number of new service 2 – 5	2
	Number of new service 1 – 2	1
KPI.14 – On time lead time	On time lead time > 100%	5
	On time lead time 80 – 90%	4
	On time lead time 70 – 80%	3
	On time lead time 60 – 70%	2
	On time lead time 50 – 60%	1
KPI.15 – Decrease number of second-class service	Second-class < 50 kasus	5
	Second-class 40 – 45 kasus	4
	Second-class 30 – 35 kasus	3
	Second-class 20 – 25 kasus	2
	Second-class 10 – 15 kasus	1
KPI.16 – Decrease number of re-work service	Re-Work < 50 kasus	5
	Re-Work 40 – 45 kasus	4
	Re-Work 30 – 35 kasus	3
	Re-Work 20 – 25 kasus	2
	Re-Work 10 – 15 kasus	1

Source: PT ASRI UTAMA IP&S Management Decision Division Data (2019)

Table 7. Learning and Growth Measurement Scale

SCALE	CATEGORY	SCORE
KPI.17 – Increase of employee satisfaction index	Employee satisfaction index > 80%	5
	Employee satisfaction index 75 - 80%	4
	Employee satisfaction index 70 - 75%	3
	Employee satisfaction index 60 - 65%	2

SCALE	CATEGORY	SCORE
	Employee satisfaction index < 55%	1
KPI.18 – Decreasement of employee turn over	Employee turn over rate <1% of total employee	5
	Employee turn over rate 1-2% of total employee	4
	Employee turn over rate 3-4% of total employee	3
	Employee turn over rate 5-6% of total employee	2
	Employee turn over rate 7-8% of total employee	1
KPI.19 – Overtime cost reduction	Overtime cost reduction per year > 10%	5
	Overtime cost reduction per year > 9%	4
	Overtime cost reduction per year > 8%	3
	Overtime cost reduction per year > 7%	2
	Annual overtime cost reduction > 6%	1
KPI.20 – Increasement of employee's attendance	Attendance rate 100%	5
	Attendance rate 95%	4
	Attendance rate 90%	3
	Attendance rate 85%	2
	Attendance rate 80%	1
KPI.21 – Web-based Application Development & addition of computer equipment	Time needed of 3 months	5
	Time needed of 6 months	4
	Time needed of 9 months	3
	Time needed of 12 months	2
	Time needed of > 12 months	1
KPI.22 – HR training	ROI > 125%	5
	ROI 105 – 125%	4
	ROI 80 – 100%	3
	ROI 50 – 75%	2
	ROI 50%	1

Source: PT ASRI UTAMA IP&S Management Decision Division Data (2019)

After all perspectives from BSC and KPI had been identified, the next step was to determine the targets which set by the company management based on the past data achievement analysis with the following result.

Table 8. PT ASRI UTAMA IP&S KPI's Target

SYMBOL	KPI	TARGET
KPI.1	ROE turn over	ROE increasement 15%
KPI.2	ROI turn over	ROI increasement 20%
KPI.3	Increasement of cash ratio	Increasement of cash ratio 15%
KPI.4	Increasement of current ratio	Increasement of current ratio 25%
KPI.5	Inventory turn over	Increasement of Inventory turn over > 2,30
KPI.6	Total asset turn over	Increasement of total asset turn over 25 %
KPI.7	On time delivery	Earlier Delivery
KPI.8	Increasement number of new customer	15 costumers
KPI.9	Decreasement number of customer complaint	No complaint
KPI.10	Increasement of Costumer Growth Rate	Costumer Growth Rate 25%
KPI.11	Decreasement of Costumer Retention Rate	Costumer Retention Rate 5%
KPI.12	Average sales of Account Officer increasement	9.000.000
KPI.13	Increasement number of new service	New service growth rate 10%
KPI.14	On time lead time	100%
KPI.15	Decreasement number of second-class service	Maximum 10%
KPI.16	Decreasement number of re-work service	Re-Work 5%

8	KPI.17	Increase of employee satisfaction index	79,7%
	KPI.18	Decrease of employee turn over	2% of total employees
	KPI.19	Overtime cost reduction	10% per year
	KPI.20	Decrease of attendance rate	95%
	KPI.21	Web-based application development (AUIPS) and computer equipment	Time period of 6 month
	KPI.22	HR training	Training 5 (Five) times a year

Source: PT ASRI UTAMA IP&S Management Decision (2019)

4 Result and Discussion

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Based on the results of descriptive statistical analysis, showing that the respondent's assessment of employee job satisfaction with a mean achievement of 3.99 (good category). Respondent's assessment of employee job satisfaction indicator which focused on: salary satisfaction shows a good score with a mean of 3.93 (good category), the item with the greatest contribution is 'received allowance is more than adequate'.

Respondent's assessment of the next indicator of employee job satisfaction focused on: promotion shows a good score with a mean of 3.90 (good category), the item with the largest contribution is 'if working well, employee employee will get be promoted'. The indicator is focusing on: co-worker shows good score with a mean of 4.14 (good category), the item with largest contribution is 'enjoying work with co-worker'.

The indicator focused on: superior shows good score with a mean of 4.04 (good category), the item with largest contribution is 'superior (manager) continues to support'. The indicator focused on: the job shows a good score with a mean of 3.94 (good category), the item with the largest contribution is 'satisfied with the job so far and will stay in the organization and satisfied to be promoted after the work results'.

Table 9. Employee Satisfaction Frequency

INDICATOR	Respondent's Answer					Average
	1	2	3	4	5	
Focusing on: Salary Satisfaction						
The organization pays the salary to me better than competitors	0	0	8	9	6	3,91
My salary is sufficient, suitable with my responsibilities	0	1	6	7	9	4,04
The allowance that I receive is more than sufficient	0	0	3	15	5	4,08
The bonus that i receive is more than sufficient	0	1	10	5	7	3,78
Enjoying life, with the salary, bonuses, and allowance that i receive	0	1	9	6	7	3,83
Mean score: Focusing on: Salary Satisfaction						3,93
Focusing on: Promotion						
Happy with the basic/procedure of promotion that used by the organization	0	1	8	11	3	3,69
Promotion is rare in the organization	0	0	8	7	8	4,00
If i work well, i will be promoted	0	0	8	6	9	4,04
I am satisfied with my progress level so far	0	0	6	15	2	3,83
I am satisfied being promoted after my work performance	0	0	7	10	6	3,95
Mean score: Focusing on: Promotion						3,90
Focusing on: Co-workers						
Many of my co-workers support me	0	0	8	7	8	4,00
Many of my co-workers help my job	0	1	2	15	5	4,04
I enjoy working with my co-workers	0	0	5	7	11	4,26
I am satisfied with my promotion by my co-workers' help	0	0	5	7	11	4,26
Mean score: Focusing on: Co-workers						4,14

INDICATOR	Respondent's Answer					Average
	1	2	3	4	5	
Focusing on: Superior						
My supervisor (manager) is supportive	0	0	1	16	6	4,22
My supervisor (manager) helps the work	0	1	7	6	9	4,00
I enjoy my work with my supervisor (manager)	0	1	8	5	9	3,95
My supervisor (manager) gives a lot of motivation	0	1	4	11	7	4,04
My supervisor (manager) is happy for the suggestion	0	2	3	11	7	4,00
Mean score: Focusing on: Superior						4,04
Focusing on: Job						
Happy and enjoy with my job	1	2	3	10	7	3,86
Very happy with my work result so far	1	1	3	13	5	3,86
Satisfied and enjoy with my job because a lot of progress for the organization	0	2	5	8	8	3,95
Satisfied with my work so far and I will keep it for the organization	0	2	5	6	10	4,04
Satisfied being promoted for my work result	0	2	2	13	6	4,00
Mean score: Focusing on: Job						3,94
Mean score: Employee Satisfaction						3,99

Source: Primary Data (2020)

Before measuring the performance of the BSC, it is necessary to determine the weight using AHP against each Perspective, Strategic Target and KPI. The results of calculations using Super Decision software can be seen in the table 10 and 11 below:

Table 10. AHP Weighting calculation between perspectives

CRITERIA	WEIGHT
Finance	0,341140831
Customer	0,286454735
Internal Business Process	0,219900135
Growth and Learning	0,152504299

Source: AHP Weight Calculation using SuperDecicion ver 3.2.0 (2020)

Table 11. Calculation of AHP weighting between strategic targets

PERSPECTIVE	KPI	CRITERIA	WEIGHT
FINANCE	1,2	Increase profitability ratio	0,142857143
	3,4	Improving liquidity ratio	0,571428571
	5,6	Increase effectiveness ratio	0,285714286
COSTUMER	7,8	Customer satisfaction	0,750000188
	9,10, 11	Sales effectiveness	0,249999812
INTERNAL BUSINESS PROCESS	12,13	Innovating (development of new services)	0,249999812
	14,15,16	Increase efficiency	0,750000188
LEARN AND GROWTH	17,18,19,20	Increase the productivity of human resources (HR)	0,750000188
	21,22	Have a commitment and support for technology and systems	0,249999812

Source: AHP Weight Calculation using SuperDecicion ver 3.2.0 (2020)

The next step is to calculate the company's BSC. First of all collect all company report data from a financial perspective, customer perspective, business process perspective and learning & growth

perspective, from this performance report then translated into a scale scoring system, multiplied by the weighting of AHP, and the results are in table 12 below:

Table 12. Calculation of BSC on Finance and Customer Perspective

STRATEGIC TARGET	KPI	SCALE OF SCORE	TOTAL WEIGHT	PERFORMANCE SCORE
Performance on Financial Perspective				
Increasing the profitability ratio	ROE turn over	3	0,032	0,097
	ROI turn over	2	0,016	0,032
			Performance total	13,00%
Increasing the liquidity ratio	Increase of cash ratio	1	0,146	0,146
	Increase of current ratio	4	0,049	0,195
			Performance total	34,11%
Increasing the effectiveness ratio	Inventory turn over	4	0,073	0,292
	Total asset turn over	3	0,024	0,073
			Performance total	37%
Total performance on Financial Perspective				84%
Performance on Customer Perspective				
Increasing the customer satisfaction	On time delivery	3	0,023	0,068
	Increase of number of customer	1	0,137	0,137
	Decrease of number of customer complaint	4	0,055	0,222
			Performance total	43%
Sales effectiveness	Growing of customer growth rate	1	0,012	0,012
	Decreasing the customer retention rate	4	0,060	0,239
			Total performance	25%
Total performance on Customer Perspective				68%

Source: Manual calculation using Microsoft Excel (2020)

Table 13. Calculation of BSC on Internal Business Process and Learn & Growth Perspective

Strategic Target	KPI	Scale of Score	Total Weight	Performance Score
Performance on Internal Business Process Perspective				
Doing the innovation	Increase of AO average sales	2	0,041	0,082
	Increase of number of customer	4	0,014	0,055
			Total performance	14%
Efficiency of productivity	On time lead time	5	0,019	0,096
	Decrease of number of second-class service	1	0,113	0,113

	Decreasement number of re- work service	1	0,033	0,033
			Total performance	24%
Total performance on Internal Business Process Perspective				38%
Performance on Learning and Growth Perspective				
	Increase of employee satisfaction index	4	0,017	0,069
HR increasement	Decreasement of employee turn over	5	0,009	0,043
	Overtime cost reduction	1	0,058	0,058
	Decreasement of attendance level	5	0,030	0,152
			Total performance	32%
Carrying capacity of technology and system	Development of web-based AUIPS applications and computer equipment	4	0,010	0,038
	HR training	2	0,029	0,057
			Total performance	10,0%
Total performance on Learning and Growth Perspective				42%

Source: Manual calculation using Microsoft Excel (2020)

5 Conclusion

To achieve the company's vision, mission and objectives can be seen from 9 (nine) strategic targets and 22 (twenty two) Key Performance Indicators (KPIs) which describe the current condition of the Inspection Body. The the highest weight is finance perspective, meaning that this company is very concerned with the financial side, while the perspective with the lowest weight is Learn and Growth meaning that the company's target has not been achieved and efforts need to be made related to what must be done to achieve the target.

The results of performance measurement at inspection service companies in 2020, the high score is financial performance 84%, second place is customer performance at 68%, learning and growth with a score of 42% is in third place, and the last position is 38% of internal business processes. The total score of the inspection service company's performance is 231% (with an average of 57.76%) which means that the performance of the inspection body/company is still poor and under the target. The results of this performance are influenced by many factors and to improve the company's performance, several programs are carried out as follows:

1) Financial Perspective

Several things must be done by the company/inspection body to fulfill the investor's demands, such as; sales increasement, work efficiency and other resources such as provision of working tools, efficient use of natural resources (electricity, gas, water, etc.). Efforts that can be made by the company to fulfill this short-term obligation are to increase service sales and for that the company needs to make innovations (development of new services) and reduces second-class services, so this is expected to be able to maintain and increase customer trust. The company needs to control the inventory of consumable inspection tools / materials, because the current trend is experiencing the overstock that getting longer they are not used, they will be expired and the material cannot be used anymore and must be discarded.

2) Customer Perspective

In an effort to meet this target, inspection company needs to open new relationships/networks to various foreign customers such as; Korea, Japan and China, as we know, the three countries are very intensive in carrying out construction work in Indonesia, surely besides some countries from other European and Asian continents, as the foreign players, of course they need inspection services from national inspection company. And another important thing is creating a tool for handling customer complaint through a web-based application so that the complaint handling is quicker and more precise.

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3) Internal Business Process Perspective

In the internal business process is a series of activities that exist in the company's internal business that having focus on service results by using effective time (on time lead time) and good quality. Efforts that can be made by the company are to review the Standard Operating Procedure (SOP) and increase the training for new employees / inspectors.

4) Learning and Growth Perspective

To meet customer expectations and improve employees' competence and efficiency, Inspection Company is recommended to find an IT web-based program to manage the Information System. This application has many benefits, besides to facilitate the company's operations, there are also many training materials that can be learned by all employees, for all the services provided by the company. This system can be accessed through the internet network, so that all employees can learn flexibly anytime and anywhere.

Suggestions for further research is to put more emphasis on government regulations, because inspection companies are very vulnerable on dynamic changes of government policy. Then a design can be made to measure the compensation that will be given to employees as a follow-up to the performance achievement.

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