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## LAMPIRAN

### Lampiran 1. Data

i	x1	x2	x3	x4	x5	jumlah	xbar
1	0.6243	0.3376	-0.9172	0.0709	0.5376	0.6532	0.13064
2	0.0718	0.3996	-0.0596	1.3659	0.3227	2.1004	0.4200n8
3	-0.0353	-1.2937	-0.0296	0.0709	0.6338	-0.6539	-0.13078
4	-0.4403	-1.4717	0.0898	-0.4838	1.213	-1.093	-0.2186
5	-0.7443	-1.8528	-0.1009	0.9281	1.8177	0.0478	0.00956
6	-1.133	-1.647	0.6685	1.3644	-0.6021	-1.3492	-0.26984
7	-1.6013	-1.7784	0.6058	1.5148	0.2711	-0.988	-0.1976
8	-1.3388	-1.4219	1.3121	1.1986	0.0989	-0.1511	-0.03022
9	-0.1471	-0.7052	0.6952	1.8248	-0.2702	1.3975	0.2795
10	0.4738	-1.2046	1.3146	1.571	0.2134	2.3682	0.47364
11	-0.6251	-0.507	2.4901	1.6751	-0.48	2.5531	0.51062
12	-0.9566	-0.1195	-0.12	0.4168	-1.8279	-2.6072	-0.52144
13	-1.2295	0.8355	-0.9625	-0.267	-0.1728	-1.7963	-0.35926
14	-0.5131	-0.8745	1.6919	-0.6865	0.6171	0.2349	0.04698
15	0.6651	-0.3131	3.1758	-0.4326	-0.2883	2.8069	0.56138
16	0.8609	1.2055	0.7537	-0.5934	0.1488	2.3755	0.4751
17	-0.0632	-3.9819	-0.315	-0.0427	0.6583	-3.7445	-0.7489
18	-1.175	-0.0632	-0.2966	0.2486	0.331	-0.9552	-0.19104
19	-1.8194	-0.1347	2.672	-0.3043	0.6523	1.0659	0.21318
20	-1.2295	-1.6588	1.8223	-1.1769	0.331	-1.9119	-0.38238
21	-0.3456	-1.3377	0.7569	0.247	0.6539	-0.0255	-0.0051

**Lampiran 2.** Uji Kolmogorov-Smirnov

<b>One-Sample Kolmogorov-Smirnov Test</b>		
<i>X1</i>		
<b>N</b>	105	
Normal Parameters <sup>a,b</sup>	Mean	.003120
	Std.	1.1092176
	Deviation	
Most Extreme Differences	Absolute	.058
	Positive	.058
	Negative	-.045
Test Statistic		.058
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

**Lampiran 3.** Nilai Bagan Kendali HWMA ( $0.02 \leq \lambda \leq 0.9$ )

i	Hi	UCL	CL	LCL	Keterangan
$\lambda = 0.02$					
1	0.0026	0.0295	0	-0.0295	In Control
2	0.1364	1.4466	0	-1.4466	In Control
3	0.2672	1.0231	0	-1.0231	In Control
4	0.1328	0.8355	0	-0.8355	In Control
5	0.0495	0.7237	0	-0.7237	In Control
6	0.0359	0.6475	0	-0.6475	In Control
7	-0.0136	0.5912	0	-0.5912	In Control
8	-0.0365	0.5474	0	-0.5474	In Control
9	-0.0295	0.5122	0	-0.5122	In Control
10	0.0087	0.4830	0	-0.4830	In Control
11	0.0559	0.4583	0	-0.4583	In Control
12	0.0766	0.4371	0	-0.4371	In Control
13	0.0300	0.4185	0	-0.4185	In Control
14	0.0082	0.4022	0	-0.4022	In Control
15	0.0213	0.3877	0	-0.3877	In Control
16	0.0555	0.3746	0	-0.3746	In Control
17	0.0573	0.3628	0	-0.3628	In Control
18	0.0210	0.3520	0	-0.3520	In Control
19	0.0173	0.3422	0	-0.3422	In Control
20	0.0157	0.3331	0	-0.3331	In Control
21	0.0034	0.3247	0	-0.3247	In Control
$\lambda = 0.04$					
1	0.0052	0.0590	0	-0.0590	In Control
2	0.1422	1.4327	0	-1.4180	In Control
3	0.2591	1.0140	0	-1.0035	In Control
4	0.1256	0.8286	0	-0.8201	In Control
5	0.0487	0.7182	0	-0.7108	In Control
6	0.0297	0.6429	0	-0.6363	In Control
7	-0.0173	0.5874	0	-0.5814	In Control
8	-0.0364	0.5443	0	-0.5387	In Control
9	-0.0232	0.5096	0	-0.5044	In Control
10	0.0182	0.4808	0	-0.4759	In Control
11	0.0652	0.4565	0	-0.4519	In Control
12	0.0644	0.4356	0	-0.4312	In Control
13	0.0221	0.4174	0	-0.4132	In Control
14	0.0090	0.4014	0	-0.3974	In Control

**Lampiran 3.** Nilai Bagan Kendali HWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	Hi	UCL	CL	LCL	Keterangan
15	0.0323	0.3871	0	-0.3832	In Control
16	0.0641	0.3743	0	-0.3705	In Control
17	0.0408	0.3627	0	-0.3591	In Control
18	0.0167	0.3522	0	-0.3487	In Control
19	0.0213	0.3425	0	-0.3391	In Control
20	0.0076	0.3337	0	-0.3303	In Control
21	0.0032	0.3255	0	-0.3223	In Control
$\lambda = 0.06$					
1	0.0078	0.0885	0	-0.0885	In Control
2	0.1480	1.3901	0	-1.3901	In Control
3	0.2510	0.9849	0	-0.9849	In Control
4	0.1185	0.8058	0	-0.8058	In Control
5	0.0479	0.6993	0	-0.6993	In Control
6	0.0235	0.6267	0	-0.6267	In Control
7	-0.0211	0.5732	0	-0.5732	In Control
8	-0.0363	0.5318	0	-0.5318	In Control
9	-0.0169	0.4984	0	-0.4984	In Control
10	0.0277	0.4708	0	-0.4708	In Control
11	0.0745	0.4475	0	-0.4475	In Control
12	0.0522	0.4275	0	-0.4275	In Control
13	0.0141	0.4101	0	-0.4101	In Control
14	0.0098	0.3948	0	-0.3948	In Control
15	0.0433	0.3812	0	-0.3812	In Control
16	0.0727	0.3690	0	-0.3690	In Control
17	0.0244	0.3579	0	-0.3579	In Control
18	0.0124	0.3479	0	-0.3479	In Control
19	0.0253	0.3388	0	-0.3388	In Control
20	-0.0005	0.3303	0	-0.3303	In Control
21	0.0030	0.3226	0	-0.3226	In Control
$\lambda = 0.08$					
1	0.0105	0.1181	0	-0.1181	In Control
2	0.1538	1.3629	0	-1.3629	In Control
3	0.2429	0.9673	0	-0.9673	In Control
4	0.1113	0.7927	0	-0.7927	In Control
5	0.0471	0.6891	0	-0.6891	In Control
6	0.0172	0.6186	0	-0.6186	In Control
7	-0.0248	0.5667	0	-0.5667	In Control

**Lampiran 3.** Nilai Bagan Kendali HWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	Hi	UCL	CL	LCL	Keterangan
8	-0.0361	0.5266	0	-0.5266	In Control
9	-0.0106	0.4943	0	-0.4943	In Control
10	0.0371	0.4677	0	-0.4677	In Control
11	0.0838	0.4453	0	-0.4453	In Control
12	0.0400	0.4261	0	-0.4261	In Control
13	0.0062	0.4093	0	-0.4093	In Control
14	0.0106	0.3946	0	-0.3946	In Control
15	0.0543	0.3816	0	-0.3816	In Control
16	0.0812	0.3699	0	-0.3699	In Control
17	0.0079	0.3594	0	-0.3594	In Control
18	0.0080	0.3498	0	-0.3498	In Control
19	0.0293	0.3411	0	-0.3411	In Control
20	-0.0087	0.3331	0	-0.3331	In Control
21	0.0028	0.3257	0	-0.3257	In Control
$\lambda = 0.1$					
1	0.0131	0.1476	0	-0.1476	In Control
2	0.1596	1.3364	0	-1.3364	In Control
3	0.2347	0.9507	0	-0.9507	In Control
4	0.1041	0.7809	0	-0.7809	In Control
5	0.0463	0.6803	0	-0.6803	In Control
6	0.0110	0.6121	0	-0.6121	In Control
7	-0.0286	0.5620	0	-0.5620	In Control
8	-0.0360	0.5233	0	-0.5233	In Control
9	-0.0043	0.4922	0	-0.4922	In Control
10	0.0466	0.4667	0	-0.4667	In Control
11	0.0930	0.4452	0	-0.4452	In Control
12	0.0278	0.4268	0	-0.4268	In Control
13	-0.0018	0.4108	0	-0.4108	In Control
14	0.0114	0.3968	0	-0.3968	In Control
15	0.0653	0.3844	0	-0.3844	In Control
16	0.0898	0.3734	0	-0.3734	In Control
17	-0.0085	0.3634	0	-0.3634	In Control
18	0.0037	0.3543	0	-0.3543	In Control
19	0.0333	0.3461	0	-0.3461	In Control
20	-0.0168	0.3386	0	-0.3386	In Control
21	0.0027	0.3316	0	-0.3316	In Control

**Lampiran 3.** Nilai Bagan Kendali HWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	Hi	UCL	CL	LCL	Keterangan
$\lambda = 0.3$					
1	0.0392	0.4427	0	-0.4427	In Control
2	0.2175	1.1239	0	-1.1239	In Control
3	0.1535	0.8542	0	-0.8542	In Control
4	0.0324	0.7428	0	-0.7428	In Control
5	0.0381	0.6803	0	-0.6803	In Control
6	-0.0514	0.6399	0	-0.6399	In Control
7	-0.0662	0.6115	0	-0.6115	In Control
8	-0.0347	0.5903	0	-0.5903	In Control
9	0.0588	0.5740	0	-0.5740	In Control
10	0.1415	0.5609	0	-0.5609	In Control
11	0.1858	0.5502	0	-0.5502	In Control
12	-0.0943	0.5413	0	-0.5413	In Control
13	-0.0812	0.5338	0	-0.5338	In Control
14	0.0193	0.5274	0	-0.5274	In Control
15	0.1756	0.5218	0	-0.5218	In Control
16	0.1754	0.5169	0	-0.5169	In Control
17	-0.1731	0.5126	0	-0.5126	In Control
18	-0.0396	0.5087	0	-0.5087	In Control
19	0.0733	0.5053	0	-0.5053	In Control
20	-0.0980	0.5022	0	-0.5022	In Control
21	0.0009	0.4994	0	-0.4994	In Control
$\lambda = 0.5$					
1	0.0653	0.7379	0	-0.7379	In Control
2	0.2754	1.0436	0	-1.0436	In Control
3	0.0723	0.9037	0	-0.9037	In Control
4	-0.0393	0.8521	0	-0.8521	In Control
5	0.0299	0.8250	0	-0.8250	In Control
6	-0.1138	0.8083	0	-0.8083	In Control
7	-0.1037	0.7970	0	-0.7970	In Control
8	-0.0334	0.7889	0	-0.7889	In Control
9	0.1218	0.7827	0	-0.7827	In Control
10	0.2364	0.7778	0	-0.7778	In Control
11	0.2786	0.7739	0	-0.7739	In Control
12	-0.2163	0.7707	0	-0.7707	In Control
13	-0.1606	0.7680	0	-0.7680	In Control
14	0.0272	0.7658	0	-0.7658	In Control

**Lampiran 3.** Nilai Bagan Kendali HWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	Hi	UCL	CL	LCL	Keterangan
15	0.2858	0.7638	0	-0.7638	In Control
16	0.2610	0.7621	0	-0.7621	In Control
17	-0.3376	0.7606	0	-0.7606	In Control
18	-0.0828	0.7593	0	-0.7593	In Control
19	0.1133	0.7581	0	-0.7581	In Control
20	-0.1793	0.7571	0	-0.7571	In Control
21	-0.0008	0.7561	0	-0.7561	In Control
$\lambda = 0.7$					
1	0.0914	1.0331	0	-1.0331	In Control
2	0.3332	1.1239	0	-1.1239	In Control
3	-0.0089	1.0795	0	-1.0795	In Control
4	-0.1110	1.0642	0	-1.0642	In Control
5	0.0218	1.0565	0	-1.0565	In Control
6	-0.1762	1.0519	0	-1.0519	In Control
7	-0.1413	1.0488	0	-1.0488	In Control
8	-0.0321	1.0465	0	-1.0465	In Control
9	0.1849	1.0449	0	-1.0449	In Control
10	0.3313	1.0436	0	-1.0436	In Control
11	0.3714	1.0425	0	-1.0425	In Control
12	-0.3384	1.0417	0	-1.0417	In Control
13	-0.2401	1.0409	0	-1.0409	In Control
14	0.0351	1.0403	0	-1.0403	In Control
15	0.3960	1.0398	0	-1.0398	In Control
16	0.3467	1.0394	0	-1.0394	In Control
17	-0.5021	1.0390	0	-1.0390	In Control
18	-0.1261	1.0386	0	-1.0386	In Control
19	0.1532	1.0383	0	-1.0383	In Control
20	-0.2605	1.0380	0	-1.0380	In Control
21	-0.0025	1.0378	0	-1.0378	In Control
$\lambda = 0.9$					
1	0.1176	1.3282	0	-1.3282	In Control
2	0.3911	1.3364	0	-1.3364	In Control
3	-0.0902	1.3323	0	-1.3323	In Control
4	-0.1827	1.3310	0	-1.3310	In Control
5	0.0136	1.3303	0	-1.3303	In Control
6	-0.2386	1.3299	0	-1.3299	In Control
7	-0.1788	1.3296	0	-1.3296	In Control

**Lampiran 3.** Nilai Bagan Kendali HWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	Hi	UCL	CL	LCL	Keterangan
8	-0.0309	1.3294	0	-1.3294	In Control
9	0.2480	1.3292	0	-1.3292	In Control
10	0.4262	1.3291	0	-1.3291	In Control
11	0.4642	1.3290	0	-1.3290	In Control
12	-0.4604	1.3290	0	-1.3290	In Control
13	-0.3195	1.3289	0	-1.3289	In Control
14	0.0430	1.3289	0	-1.3289	In Control
15	0.5063	1.3288	0	-1.3288	In Control
16	0.4323	1.3288	0	-1.3288	In Control
17	-0.6666	1.3287	0	-1.3287	In Control
18	-0.1694	1.3287	0	-1.3287	In Control
19	0.1932	1.3287	0	-1.3287	In Control
20	-0.3418	1.3287	0	-1.3287	In Control
21	-0.0042	1.3286	0	-1.3286	In Control

**Lampiran 4.** Nilai Bagan Kendali DHWMA

i	DHi	UCL	CL	LCL	Keterangan
$\lambda = 0.02$					
1	0.0001	0.0006	0	-0.0006	In Control
2	0.1308	1.4752	0	-1.4752	In Control
3	0.2752	1.0431	0	-1.0431	In Control
4	0.1398	0.8517	0	-0.8517	In Control
5	0.0503	0.7376	0	-0.7376	In Control
6	0.0421	0.6597	0	-0.6597	In Control
7	-0.0099	0.6023	0	-0.6023	In Control
8	-0.0366	0.5576	0	-0.5576	In Control
9	-0.0357	0.5216	0	-0.5216	In Control
10	-0.0006	0.4917	0	-0.4917	In Control
11	0.0468	0.4665	0	-0.4665	In Control
12	0.0886	0.4448	0	-0.4448	In Control
13	0.0378	0.4259	0	-0.4259	In Control
14	0.0074	0.4092	0	-0.4092	In Control
15	0.0105	0.3943	0	-0.3943	In Control
16	0.0471	0.3809	0	-0.3809	In Control
17	0.0734	0.3688	0	-0.3688	In Control
18	0.0253	0.3578	0	-0.3578	In Control
19	0.0134	0.3477	0	-0.3477	In Control
20	0.0237	0.3384	0	-0.3384	In Control
21	0.0035	0.3299	0	-0.3299	In Control
$\lambda = 0.04$					
1	0.0002	0.0024	0	-0.0024	In Control
2	0.1311	1.4745	0	-1.4734	In Control
3	0.2747	1.0426	0	-1.0419	In Control
4	0.1394	0.8513	0	-0.8507	In Control
5	0.0503	0.7372	0	-0.7367	In Control
6	0.0417	0.6594	0	-0.6589	In Control
7	-0.0101	0.6020	0	-0.6015	In Control
8	-0.0366	0.5573	0	-0.5569	In Control
9	-0.0353	0.5213	0	-0.5209	In Control
10	0.0000	0.4915	0	-0.4912	In Control
11	0.0474	0.4663	0	-0.4659	In Control
12	0.0878	0.4446	0	-0.4443	In Control
13	0.0373	0.4257	0	-0.4254	In Control
14	0.0075	0.4090	0	-0.4087	In Control

**Lampiran 4.** Nilai Bagan Kendali DHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	DHi	UCL	CL	LCL	Keterangan
15	0.0111	0.3941	0	-0.3938	In Control
16	0.0477	0.3807	0	-0.3804	In Control
17	0.0724	0.3686	0	-0.3684	In Control
18	0.0250	0.3576	0	-0.3574	In Control
19	0.0136	0.3475	0	-0.3473	In Control
20	0.0232	0.3383	0	-0.3380	In Control
21	0.0035	0.3297	0	-0.3295	In Control
$\lambda = 0.06$					
1	0.0005	0.0053	0	-0.0053	In Control
2	0.1317	1.4705	0	-1.4705	In Control
3	0.2739	1.0398	0	-1.0398	In Control
4	0.1387	0.8490	0	-0.8490	In Control
5	0.0502	0.7353	0	-0.7353	In Control
6	0.0411	0.6576	0	-0.6576	In Control
7	-0.0105	0.6003	0	-0.6003	In Control
8	-0.0366	0.5558	0	-0.5558	In Control
9	-0.0347	0.5199	0	-0.5199	In Control
10	0.0009	0.4902	0	-0.4902	In Control
11	0.0483	0.4650	0	-0.4650	In Control
12	0.0866	0.4434	0	-0.4434	In Control
13	0.0365	0.4245	0	-0.4245	In Control
14	0.0076	0.4079	0	-0.4079	In Control
15	0.0122	0.3930	0	-0.3930	In Control
16	0.0485	0.3797	0	-0.3797	In Control
17	0.0708	0.3677	0	-0.3677	In Control
18	0.0246	0.3567	0	-0.3567	In Control
19	0.0140	0.3466	0	-0.3466	In Control
20	0.0224	0.3374	0	-0.3374	In Control
21	0.0035	0.3289	0	-0.3289	In Control
$\lambda = 0.08$					
1	0.0008	0.0094	0	-0.0094	In Control
2	0.1325	1.4664	0	-1.4664	In Control
3	0.2728	1.0369	0	-1.0369	In Control
4	0.1377	0.8467	0	-0.8467	In Control
5	0.0501	0.7332	0	-0.7332	In Control
6	0.0402	0.6558	0	-0.6558	In Control
7	-0.0110	0.5987	0	-0.5987	In Control

**Lampiran 4.** Nilai Bagan Kendali DHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	DHi	UCL	CL	LCL	Keterangan
8	-0.0366	0.5543	0	-0.5543	In Control
9	-0.0338	0.5185	0	-0.5185	In Control
10	0.0022	0.4889	0	-0.4889	In Control
11	0.0496	0.4638	0	-0.4638	In Control
12	0.0849	0.4422	0	-0.4422	In Control
13	0.0354	0.4234	0	-0.4234	In Control
14	0.0077	0.4068	0	-0.4068	In Control
15	0.0138	0.3920	0	-0.3920	In Control
16	0.0497	0.3787	0	-0.3787	In Control
17	0.0685	0.3667	0	-0.3667	In Control
18	0.0240	0.3558	0	-0.3558	In Control
19	0.0146	0.3458	0	-0.3458	In Control
20	0.0212	0.3365	0	-0.3365	In Control
21	0.0035	0.3280	0	-0.3280	In Control
$\lambda = 0.1$					
1	0.0013	0.0148	0	-0.0148	In Control
2	0.0277	1.4611	0	-1.4611	In Control
3	0.1012	1.0332	0	-1.0332	In Control
4	0.1326	0.8437	0	-0.8437	In Control
5	0.1197	0.7307	0	-0.7307	In Control
6	0.1015	0.6536	0	-0.6536	In Control
7	0.0825	0.5967	0	-0.5967	In Control
8	0.0658	0.5524	0	-0.5524	In Control
9	0.0563	0.5168	0	-0.5168	In Control
10	0.0546	0.4872	0	-0.4872	In Control
11	0.0585	0.4623	0	-0.4623	In Control
12	0.0551	0.4408	0	-0.4408	In Control
13	0.0499	0.4220	0	-0.4220	In Control
14	0.0472	0.4055	0	-0.4055	In Control
15	0.0501	0.3908	0	-0.3908	In Control
16	0.0535	0.3775	0	-0.3775	In Control
17	0.0459	0.3656	0	-0.3656	In Control
18	0.0440	0.3547	0	-0.3547	In Control
19	0.0447	0.3447	0	-0.3447	In Control
20	0.0391	0.3355	0	-0.3355	In Control
21	0.0382	0.3270	0	-0.3270	In Control

**Lampiran 4.** Nilai Bagan Kendali DHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	DHi	UCL	CL	LCL	Keterangan
$\lambda = 0.03$					
1	0.0118	0.1328	0	-0.1328	In Control
2	0.1567	1.3495	0	-1.3495	In Control
3	0.2388	0.9589	0	-0.9589	In Control
4	0.1077	0.7867	0	-0.7867	In Control
5	0.0467	0.6845	0	-0.6845	In Control
6	0.0141	0.6151	0	-0.6151	In Control
7	-0.0267	0.5641	0	-0.5641	In Control
8	-0.0361	0.5247	0	-0.5247	In Control
9	-0.0075	0.4930	0	-0.4930	In Control
10	0.0419	0.4669	0	-0.4669	In Control
11	0.0884	0.4450	0	-0.4450	In Control
12	0.0339	0.4262	0	-0.4262	In Control
13	0.0022	0.4098	0	-0.4098	In Control
14	0.0110	0.3954	0	-0.3954	In Control
15	0.0598	0.3827	0	-0.3827	In Control
16	0.0855	0.3713	0	-0.3713	In Control
17	-0.0003	0.3611	0	-0.3611	In Control
18	0.0059	0.3518	0	-0.3518	In Control
19	0.0313	0.3433	0	-0.3433	In Control
20	-0.0127	0.3355	0	-0.3355	In Control
21	0.0028	0.3284	0	-0.3284	In Control
$\lambda = 0.05$					
1	0.0327	0.3690	0	-0.3690	In Control
2	0.2030	1.1667	0	-1.1667	In Control
3	0.1738	0.8653	0	-0.8653	In Control
4	0.0503	0.7379	0	-0.7379	In Control
5	0.0401	0.6651	0	-0.6651	In Control
6	-0.0358	0.6174	0	-0.6174	In Control
7	-0.0568	0.5834	0	-0.5834	In Control
8	-0.0350	0.5578	0	-0.5578	In Control
9	0.0430	0.5378	0	-0.5378	In Control
10	0.1178	0.5218	0	-0.5218	In Control
11	0.1626	0.5086	0	-0.5086	In Control
12	-0.0637	0.4975	0	-0.4975	In Control
13	-0.0613	0.4881	0	-0.4881	In Control
14	0.0173	0.4800	0	-0.4800	In Control

**Lampiran 4.** Nilai Bagan Kendali DHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	DHi	UCL	CL	LCL	Keterangan
15	0.1480	0.4729	0	-0.4729	In Control
16	0.1540	0.4667	0	-0.4667	In Control
17	-0.1319	0.4612	0	-0.4612	In Control
18	-0.0288	0.4563	0	-0.4563	In Control
19	0.0633	0.4519	0	-0.4519	In Control
20	-0.0777	0.4479	0	-0.4479	In Control
21	0.0014	0.4443	0	-0.4443	In Control
$\lambda = 0.7$					
1	0.0640	0.7231	0	-0.7231	In Control
2	0.2725	1.0438	0	-1.0438	In Control
3	0.0764	0.8979	0	-0.8979	In Control
4	-0.0343	0.8437	0	-0.8437	In Control
5	-0.0372	0.8152	0	-0.8152	In Control
6	-0.1547	0.7976	0	-0.7976	In Control
7	-0.1379	0.7857	0	-0.7857	In Control
8	-0.0926	0.7771	0	-0.7771	In Control
9	0.0953	0.7706	0	-0.7706	In Control
10	0.2693	0.7654	0	-0.7654	In Control
11	0.3730	0.7613	0	-0.7613	In Control
12	-0.0892	0.7579	0	-0.7579	In Control
13	-0.1697	0.7551	0	-0.7551	In Control
14	-0.1075	0.7527	0	-0.7527	In Control
15	0.2304	0.7506	0	-0.7506	In Control
16	0.3339	0.7488	0	-0.7488	In Control
17	-0.1960	0.7472	0	-0.7472	In Control
18	-0.1294	0.7458	0	-0.7458	In Control
19	-0.0337	0.7446	0	-0.7446	In Control
20	-0.1790	0.7435	0	-0.7435	In Control
21	-0.0271	0.7425	0	-0.7425	In Control
$\lambda = 0.9$					
1	0.7969	1.1954	0	-1.1954	In Control
2	0.9696	1.2278	0	-1.2278	In Control
3	0.9065	1.2117	0	-1.2117	In Control
4	0.8679	1.2063	0	-1.2063	In Control
5	0.8459	1.2036	0	-1.2036	In Control
6	0.8366	1.2020	0	-1.2020	In Control
7	0.8261	1.2009	0	-1.2009	In Control

**Lampiran 4.** Nilai Bagan Kendali DHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	DHi	UCL	CL	LCL	Keterangan
8	0.8194	1.2001	0	-1.2001	<i>In Control</i>
9	0.8163	1.1995	0	-1.1995	<i>In Control</i>
10	0.8169	1.1991	0	-1.1991	<i>In Control</i>
11	0.8192	1.1987	0	-1.1987	<i>In Control</i>
12	0.8214	1.1984	0	-1.1984	<i>In Control</i>
13	0.8156	1.1981	0	-1.1981	<i>In Control</i>
14	0.8117	1.1979	0	-1.1979	<i>In Control</i>
15	0.8109	1.1977	0	-1.1977	<i>In Control</i>
16	0.8134	1.1976	0	-1.1976	<i>In Control</i>
17	0.8151	1.1975	0	-1.1975	<i>In Control</i>
18	0.8101	1.1973	0	-1.1973	<i>In Control</i>
19	0.8084	1.1972	0	-1.1972	<i>In Control</i>
20	0.8088	1.1971	0	-1.1971	<i>In Control</i>
21	0.8065	1.1970	0	-1.1970	<i>In Control</i>

**Lampiran 5.** Nilai Bagan Kendali THWMA ( $0.02 \leq \lambda \leq 0.9$ )

i	THi	UCL	CL	LCL	Keterangan
$\lambda = 0.02$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0435	0	-1.0435	In Control
4	0.1400	0.8520	0	-0.8520	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3810	0	-0.3810	In Control
17	0.0737	0.3689	0	-0.3689	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3478	0	-0.3478	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.04$					
1	0.0000	0.0001	0	-0.0001	In Control
2	0.1307	1.4758	0	-1.4757	In Control
3	0.2753	1.0435	0	-1.0435	In Control
4	0.1400	0.8520	0	-0.8520	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5217	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0467	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4449	In Control
13	0.0379	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control

**Lampiran 5.** Nilai Bagan Kendali THWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	THi	UCL	CL	LCL	Keterangan
15	0.0103	0.3944	0	-0.3944	In Control
16	0.0470	0.3810	0	-0.3810	In Control
17	0.0737	0.3689	0	-0.3689	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3478	0	-0.3478	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.06$					
1	0.0000	0.0003	0	-0.0003	In Control
2	0.1307	1.4755	0	-1.4755	In Control
3	0.2753	1.0433	0	-1.0433	In Control
4	0.1399	0.8519	0	-0.8519	In Control
5	0.0503	0.7377	0	-0.7377	In Control
6	0.0421	0.6599	0	-0.6599	In Control
7	-0.0099	0.6024	0	-0.6024	In Control
8	-0.0366	0.5577	0	-0.5577	In Control
9	-0.0358	0.5217	0	-0.5217	In Control
10	-0.0007	0.4918	0	-0.4918	In Control
11	0.0467	0.4666	0	-0.4666	In Control
12	0.0887	0.4449	0	-0.4449	In Control
13	0.0379	0.4259	0	-0.4259	In Control
14	0.0074	0.4092	0	-0.4092	In Control
15	0.0104	0.3943	0	-0.3943	In Control
16	0.0471	0.3810	0	-0.3810	In Control
17	0.0736	0.3689	0	-0.3689	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0134	0.3478	0	-0.3478	In Control
20	0.0238	0.3385	0	-0.3385	In Control
21	0.0035	0.3299	0	-0.3299	In Control
$\lambda = 0.08$					
1	0.0001	0.0008	0	-0.0008	In Control
2	0.1308	1.4750	0	-1.4750	In Control
3	0.2752	1.0430	0	-1.0430	In Control
4	0.1398	0.8516	0	-0.8516	In Control
5	0.0503	0.7375	0	-0.7375	In Control
6	0.0420	0.6597	0	-0.6597	In Control
7	-0.0099	0.6022	0	-0.6022	In Control

**Lampiran 5.** Nilai Bagan Kendali THWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	THi	UCL	CL	LCL	Keterangan
8	-0.0366	0.5575	0	-0.5575	In Control
9	-0.0357	0.5215	0	-0.5215	In Control
10	-0.0006	0.4917	0	-0.4917	In Control
11	0.0469	0.4665	0	-0.4665	In Control
12	0.0885	0.4447	0	-0.4447	In Control
13	0.0378	0.4258	0	-0.4258	In Control
14	0.0074	0.4091	0	-0.4091	In Control
15	0.0105	0.3942	0	-0.3942	In Control
16	0.0472	0.3809	0	-0.3809	In Control
17	0.0733	0.3688	0	-0.3688	In Control
18	0.0252	0.3578	0	-0.3578	In Control
19	0.0134	0.3477	0	-0.3477	In Control
20	0.0236	0.3384	0	-0.3384	In Control
21	0.0035	0.3298	0	-0.3298	In Control
$\lambda = 0.1$					
1	0.0001	0.0015	0	-0.0015	In Control
2	0.0039	1.4743	0	-1.4743	In Control
3	0.0232	1.0425	0	-1.0425	In Control
4	0.0523	0.8512	0	-0.8512	In Control
5	0.0711	0.7372	0	-0.7372	In Control
6	0.0790	0.6593	0	-0.6593	In Control
7	0.0809	0.6019	0	-0.6019	In Control
8	0.0794	0.5572	0	-0.5572	In Control
9	0.0768	0.5213	0	-0.5213	In Control
10	0.0743	0.4914	0	-0.4914	In Control
11	0.0727	0.4662	0	-0.4662	In Control
12	0.0711	0.4445	0	-0.4445	In Control
13	0.0693	0.4256	0	-0.4256	In Control
14	0.0675	0.4089	0	-0.4089	In Control
15	0.0663	0.3940	0	-0.3940	In Control
16	0.0656	0.3807	0	-0.3807	In Control
17	0.0641	0.3686	0	-0.3686	In Control
18	0.0628	0.3576	0	-0.3576	In Control
19	0.0618	0.3475	0	-0.3475	In Control
20	0.0604	0.3382	0	-0.3382	In Control
21	0.0592	0.3297	0	-0.3297	In Control

**Lampiran 5.** Nilai Bagan Kendali THWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	THi	UCL	CL	LCL	Keterangan
$\lambda = 0.3$					
1	0.0035	0.0398	0	-0.0398	In Control
2	0.1385	1.4365	0	-1.4365	In Control
3	0.2644	1.0162	0	-1.0162	In Control
4	0.1303	0.8300	0	-0.8300	In Control
5	0.0492	0.7191	0	-0.7191	In Control
6	0.0338	0.6434	0	-0.6434	In Control
7	-0.0149	0.5876	0	-0.5876	In Control
8	-0.0365	0.5442	0	-0.5442	In Control
9	-0.0273	0.5092	0	-0.5092	In Control
10	0.0120	0.4803	0	-0.4803	In Control
11	0.0592	0.4558	0	-0.4558	In Control
12	0.0723	0.4348	0	-0.4348	In Control
13	0.0272	0.4164	0	-0.4164	In Control
14	0.0085	0.4003	0	-0.4003	In Control
15	0.0251	0.3858	0	-0.3858	In Control
16	0.0585	0.3729	0	-0.3729	In Control
17	0.0515	0.3612	0	-0.3612	In Control
18	0.0195	0.3505	0	-0.3505	In Control
19	0.0187	0.3408	0	-0.3408	In Control
20	0.0129	0.3318	0	-0.3318	In Control
21	0.0033	0.3236	0	-0.3236	In Control
$\lambda = 0.5$					
1	0.0163	0.1845	0	-0.1845	In Control
2	0.1668	1.3044	0	-1.3044	In Control
3	0.2246	0.9316	0	-0.9316	In Control
4	0.0952	0.7680	0	-0.7680	In Control
5	0.0452	0.6715	0	-0.6715	In Control
6	0.0032	0.6062	0	-0.6062	In Control
7	-0.0333	0.5585	0	-0.5585	In Control
8	-0.0358	0.5218	0	-0.5218	In Control
9	0.0036	0.4924	0	-0.4924	In Control
10	0.0585	0.4683	0	-0.4683	In Control
11	0.1046	0.4481	0	-0.4481	In Control
12	0.0125	0.4308	0	-0.4308	In Control
13	-0.0117	0.4159	0	-0.4159	In Control
14	0.0124	0.4029	0	-0.4029	In Control

**Lampiran 5.** Nilai Bagan Kendali THWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	THi	UCL	CL	LCL	Keterangan
15	0.0791	0.3913	0	-0.3913	In Control
16	0.1005	0.3811	0	-0.3811	In Control
17	-0.0291	0.3718	0	-0.3718	In Control
18	-0.0017	0.3635	0	-0.3635	In Control
19	0.0383	0.3559	0	-0.3559	In Control
20	-0.0269	0.3490	0	-0.3490	In Control
21	0.0025	0.3426	0	-0.3426	In Control
$\lambda = 0.7$					
1	0.0448	0.5062	0	-0.5062	In Control
2	0.2299	1.0938	0	-1.0938	In Control
3	0.1361	0.8522	0	-0.8522	In Control
4	0.0180	0.7547	0	-0.7547	In Control
5	-0.0109	0.7009	0	-0.7009	In Control
6	-0.0956	0.6665	0	-0.6665	In Control
7	-0.0995	0.6426	0	-0.6426	In Control
8	-0.0758	0.6249	0	-0.6249	In Control
9	0.0559	0.6114	0	-0.6114	In Control
10	0.1883	0.6006	0	-0.6006	In Control
11	0.2751	0.5918	0	-0.5918	In Control
12	-0.0358	0.5846	0	-0.5846	In Control
13	-0.1074	0.5784	0	-0.5784	In Control
14	-0.0730	0.5732	0	-0.5732	In Control
15	0.1643	0.5687	0	-0.5687	In Control
16	0.2478	0.5647	0	-0.5647	In Control
17	-0.1151	0.5612	0	-0.5612	In Control
18	-0.0829	0.5582	0	-0.5582	In Control
19	-0.0196	0.5554	0	-0.5554	In Control
20	-0.1182	0.5529	0	-0.5529	In Control
21	-0.0179	0.5507	0	-0.5507	In Control
$\lambda = 0.9$					
1	0.4782	1.0759	0	-1.0759	In Control
2	0.9884	1.1478	0	-1.1478	In Control
3	0.7956	1.1124	0	-1.1124	In Control
4	0.6992	1.1004	0	-1.1004	In Control
5	0.6448	1.0943	0	-1.0943	In Control
6	0.6151	1.0906	0	-1.0906	In Control
7	0.5898	1.0882	0	-1.0882	In Control

**Lampiran 5.** Nilai Bagan Kendali THWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	THi	UCL	CL	LCL	Keterangan
8	0.5724	1.0864	0	-1.0864	<i>In Control</i>
9	0.5612	1.0851	0	-1.0851	<i>In Control</i>
10	0.5557	1.0841	0	-1.0841	<i>In Control</i>
11	0.5532	1.0833	0	-1.0833	<i>In Control</i>
12	0.5514	1.0826	0	-1.0826	<i>In Control</i>
13	0.5412	1.0820	0	-1.0820	<i>In Control</i>
14	0.5339	1.0816	0	-1.0816	<i>In Control</i>
15	0.5304	1.0812	0	-1.0812	<i>In Control</i>
16	0.5308	1.0808	0	-1.0808	<i>In Control</i>
17	0.5306	1.0805	0	-1.0805	<i>In Control</i>
18	0.5232	1.0802	0	-1.0802	<i>In Control</i>
19	0.5198	1.0800	0	-1.0800	<i>In Control</i>
20	0.5188	1.0798	0	-1.0798	<i>In Control</i>
21	0.5149	1.0796	0	-1.0796	<i>In Control</i>

**Lampiran 6.** Nilai Bagan Kendali QaHWMA ( $0.02 \leq \lambda \leq 0.9$ )

i	QaHi	UCL	CL	LCL	Keterangan
$\lambda = 0.02$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0436	0	-1.0436	In Control
4	0.1400	0.8521	0	-0.8521	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3811	0	-0.3811	In Control
17	0.0737	0.3690	0	-0.3690	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3479	0	-0.3479	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.04$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0436	0	-1.0435	In Control
4	0.1400	0.8521	0	-0.8521	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control

**Lampiran 6.** Nilai Bagan Kendali QaHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QaHi	UCL	CL	LCL	Keterangan
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3811	0	-0.3811	In Control
17	0.0737	0.3690	0	-0.3690	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3479	0	-0.3478	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.06$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0435	0	-1.0435	In Control
4	0.1400	0.8520	0	-0.8520	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3810	0	-0.3810	In Control
17	0.0737	0.3689	0	-0.3689	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3478	0	-0.3478	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.08$					
1	0.0000	0.0001	0	-0.0001	In Control
2	0.1307	1.4757	0	-1.4757	In Control
3	0.2753	1.0435	0	-1.0435	In Control
4	0.1400	0.8520	0	-0.8520	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control

**Lampiran 6.** Nilai Bagan Kendali QaHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QaHi	UCL	CL	LCL	Keterangan
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0467	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0379	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control
15	0.0103	0.3944	0	-0.3944	In Control
16	0.0470	0.3810	0	-0.3810	In Control
17	0.0737	0.3689	0	-0.3689	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3478	0	-0.3478	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.1$					
1	0.0000	0.0001	0	-0.0001	In Control
2	0.1180	1.4757	0	-1.4757	In Control
3	0.2501	1.0434	0	-1.0434	In Control
4	0.1312	0.8520	0	-0.8520	In Control
5	0.0524	0.7378	0	-0.7378	In Control
6	0.0459	0.6599	0	-0.6599	In Control
7	-0.0008	0.6024	0	-0.6024	In Control
8	-0.0250	0.5577	0	-0.5577	In Control
9	-0.0246	0.5217	0	-0.5217	In Control
10	0.0067	0.4919	0	-0.4919	In Control
11	0.0492	0.4666	0	-0.4666	In Control
12	0.0870	0.4449	0	-0.4449	In Control
13	0.0411	0.4260	0	-0.4260	In Control
14	0.0134	0.4093	0	-0.4093	In Control
15	0.0158	0.3944	0	-0.3944	In Control
16	0.0488	0.3810	0	-0.3810	In Control
17	0.0728	0.3689	0	-0.3689	In Control
18	0.0291	0.3579	0	-0.3579	In Control
19	0.0182	0.3478	0	-0.3478	In Control
20	0.0275	0.3385	0	-0.3385	In Control
21	0.0091	0.3300	0	-0.3300	In Control

**Lampiran 6.** Nilai Bagan Kendali QaHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QaHi	UCL	CL	LCL	Keterangan
$\lambda = 0.3$					
1	0.0011	0.0120	0	-0.0120	In Control
2	0.1330	1.4639	0	-1.4639	In Control
3	0.2721	1.0352	0	-1.0352	In Control
4	0.1371	0.8452	0	-0.8452	In Control
5	0.0500	0.7320	0	-0.7320	In Control
6	0.0397	0.6548	0	-0.6548	In Control
7	-0.0113	0.5977	0	-0.5977	In Control
8	-0.0366	0.5534	0	-0.5534	In Control
9	-0.0333	0.5177	0	-0.5177	In Control
10	0.0030	0.4881	0	-0.4881	In Control
11	0.0504	0.4631	0	-0.4631	In Control
12	0.0839	0.4415	0	-0.4415	In Control
13	0.0347	0.4227	0	-0.4227	In Control
14	0.0077	0.4062	0	-0.4062	In Control
15	0.0147	0.3914	0	-0.3914	In Control
16	0.0504	0.3782	0	-0.3782	In Control
17	0.0671	0.3662	0	-0.3662	In Control
18	0.0236	0.3552	0	-0.3552	In Control
19	0.0149	0.3452	0	-0.3452	In Control
20	0.0206	0.3360	0	-0.3360	In Control
21	0.0035	0.3275	0	-0.3275	In Control
$\lambda = 0.5$					
1	0.0082	0.0922	0	-0.0922	In Control
2	0.1487	1.3866	0	-1.3866	In Control
3	0.2500	0.9827	0	-0.9827	In Control
4	0.1176	0.8041	0	-0.8041	In Control
5	0.0478	0.6979	0	-0.6979	In Control
6	0.0227	0.6256	0	-0.6256	In Control
7	-0.0216	0.5723	0	-0.5723	In Control
8	-0.0362	0.5310	0	-0.5310	In Control
9	-0.0161	0.4978	0	-0.4978	In Control
10	0.0288	0.4703	0	-0.4703	In Control
11	0.0756	0.4471	0	-0.4471	In Control
12	0.0507	0.4272	0	-0.4272	In Control
13	0.0131	0.4099	0	-0.4099	In Control
14	0.0099	0.3947	0	-0.3947	In Control

**Lampiran 6.** Nilai Bagan Kendali QaHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QaHi	UCL	CL	LCL	Keterangan
15	0.0447	0.3811	0	-0.3811	In Control
16	0.0737	0.3690	0	-0.3690	In Control
17	0.0223	0.3580	0	-0.3580	In Control
18	0.0118	0.3480	0	-0.3480	In Control
19	0.0258	0.3389	0	-0.3389	In Control
20	-0.0015	0.3305	0	-0.3305	In Control
21	0.0030	0.3228	0	-0.3228	In Control
$\lambda = 0.7$					
1	0.0314	0.3543	0	-0.3543	In Control
2	0.2001	1.1761	0	-1.1761	In Control
3	0.1778	0.8686	0	-0.8686	In Control
4	0.0546	0.7381	0	-0.7381	In Control
5	0.0075	0.6633	0	-0.6633	In Control
6	-0.0543	0.6141	0	-0.6141	In Control
7	-0.0726	0.5789	0	-0.5789	In Control
8	-0.0641	0.5525	0	-0.5525	In Control
9	0.0284	0.5318	0	-0.5318	In Control
10	0.1315	0.5151	0	-0.5151	In Control
11	0.2065	0.5013	0	-0.5013	In Control
12	0.0016	0.4898	0	-0.4898	In Control
13	-0.0638	0.4800	0	-0.4800	In Control
14	-0.0489	0.4715	0	-0.4715	In Control
15	0.1181	0.4641	0	-0.4641	In Control
16	0.1876	0.4576	0	-0.4576	In Control
17	-0.0584	0.4518	0	-0.4518	In Control
18	-0.0505	0.4467	0	-0.4467	In Control
19	-0.0097	0.4421	0	-0.4421	In Control
20	-0.0756	0.4379	0	-0.4379	In Control
21	-0.0115	0.4341	0	-0.4341	In Control
$\lambda = 0.9$					
1	0.2869	0.9683	0	-0.9683	In Control
2	1.0932	1.0932	0	-1.0932	In Control
3	0.8178	1.0326	0	-1.0326	In Control
4	0.6802	1.0116	0	-1.0116	In Control
5	0.5995	1.0010	0	-1.0010	In Control
6	0.5512	0.9945	0	-0.9945	In Control
7	0.5119	0.9902	0	-0.9902	In Control

**Lampiran 6.** Nilai Bagan Kendali QaHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QaHi	UCL	CL	LCL	Keterangan
8	0.4834	0.9871	0	-0.9871	<i>In Control</i>
9	0.4632	0.9848	0	-0.9848	<i>In Control</i>
10	0.4502	0.9829	0	-0.9829	<i>In Control</i>
11	0.4414	0.9815	0	-0.9815	<i>In Control</i>
12	0.4342	0.9803	0	-0.9803	<i>In Control</i>
13	0.4193	0.9793	0	-0.9793	<i>In Control</i>
14	0.4078	0.9785	0	-0.9785	<i>In Control</i>
15	0.4007	0.9777	0	-0.9777	<i>In Control</i>
16	0.3979	0.9771	0	-0.9771	<i>In Control</i>
17	0.3948	0.9766	0	-0.9766	<i>In Control</i>
18	0.3848	0.9761	0	-0.9761	<i>In Control</i>
19	0.3789	0.9756	0	-0.9756	<i>In Control</i>
20	0.3757	0.9753	0	-0.9753	<i>In Control</i>
21	0.3698	0.9749	0	-0.9749	<i>In Control</i>

**Lampiran 7.** Nilai Bagan Kendali QiHWMA ( $0.02 \leq \lambda \leq 0.9$ )

i	QiHi	UCL	CL	LCL	Keterangan
$\lambda = 0.02$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0436	0	-1.0436	In Control
4	0.1400	0.8521	0	-0.8521	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3811	0	-0.3811	In Control
17	0.0737	0.3690	0	-0.3690	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3479	0	-0.3479	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.04$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0436	0	-1.0436	In Control
4	0.1400	0.8521	0	-0.8521	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control

**Lampiran 7.** Nilai Bagan Kendali QiHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QiHi	UCL	CL	LCL	Keterangan
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3811	0	-0.3811	In Control
17	0.0737	0.3690	0	-0.3690	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3479	0	-0.3479	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.06$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0436	0	-1.0436	In Control
4	0.1400	0.8521	0	-0.8521	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3811	0	-0.3811	In Control
17	0.0737	0.3690	0	-0.3690	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3479	0	-0.3479	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.08$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1306	1.4758	0	-1.4758	In Control
3	0.2754	1.0435	0	-1.0435	In Control
4	0.1400	0.8521	0	-0.8521	In Control
5	0.0503	0.7379	0	-0.7379	In Control
6	0.0422	0.6600	0	-0.6600	In Control
7	-0.0098	0.6025	0	-0.6025	In Control

**Lampiran 7.** Nilai Bagan Kendali QiHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QiHi	UCL	CL	LCL	Keterangan
8	-0.0366	0.5578	0	-0.5578	In Control
9	-0.0358	0.5218	0	-0.5218	In Control
10	-0.0008	0.4919	0	-0.4919	In Control
11	0.0466	0.4667	0	-0.4667	In Control
12	0.0888	0.4450	0	-0.4450	In Control
13	0.0380	0.4260	0	-0.4260	In Control
14	0.0074	0.4093	0	-0.4093	In Control
15	0.0102	0.3944	0	-0.3944	In Control
16	0.0470	0.3810	0	-0.3810	In Control
17	0.0737	0.3690	0	-0.3690	In Control
18	0.0253	0.3579	0	-0.3579	In Control
19	0.0133	0.3478	0	-0.3478	In Control
20	0.0238	0.3386	0	-0.3386	In Control
21	0.0035	0.3300	0	-0.3300	In Control
$\lambda = 0.1$					
1	0.0000	0.0000	0	0.0000	In Control
2	0.1294	1.4758	0	-1.4758	In Control
3	0.2728	1.0435	0	-1.0435	In Control
4	0.1391	0.8520	0	-0.8520	In Control
5	0.0505	0.7379	0	-0.7379	In Control
6	0.0425	0.6600	0	-0.6600	In Control
7	-0.0089	0.6025	0	-0.6025	In Control
8	-0.0355	0.5578	0	-0.5578	In Control
9	-0.0347	0.5218	0	-0.5218	In Control
10	-0.0001	0.4919	0	-0.4919	In Control
11	0.0469	0.4667	0	-0.4667	In Control
12	0.0886	0.4450	0	-0.4450	In Control
13	0.0383	0.4260	0	-0.4260	In Control
14	0.0080	0.4093	0	-0.4093	In Control
15	0.0108	0.3944	0	-0.3944	In Control
16	0.0472	0.3810	0	-0.3810	In Control
17	0.0736	0.3689	0	-0.3689	In Control
18	0.0257	0.3579	0	-0.3579	In Control
19	0.0138	0.3478	0	-0.3478	In Control
20	0.0242	0.3386	0	-0.3386	In Control
21	0.0041	0.3300	0	-0.3300	In Control

**Lampiran 7.** Nilai Bagan Kendali QiHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QiHi	UCL	CL	LCL	Keterangan
$\lambda = 0.3$					
1	0.0003	0.0036	0	-0.0036	In Control
2	0.1313	1.4722	0	-1.4722	In Control
3	0.2744	1.0410	0	-1.0410	In Control
4	0.1391	0.8500	0	-0.8500	In Control
5	0.0502	0.7361	0	-0.7361	In Control
6	0.0414	0.6584	0	-0.6584	In Control
7	-0.0103	0.6010	0	-0.6010	In Control
8	-0.0366	0.5565	0	-0.5565	In Control
9	-0.0351	0.5205	0	-0.5205	In Control
10	0.0003	0.4908	0	-0.4908	In Control
11	0.0478	0.4656	0	-0.4656	In Control
12	0.0873	0.4439	0	-0.4439	In Control
13	0.0370	0.4250	0	-0.4250	In Control
14	0.0075	0.4083	0	-0.4083	In Control
15	0.0116	0.3935	0	-0.3935	In Control
16	0.0480	0.3801	0	-0.3801	In Control
17	0.0717	0.3681	0	-0.3681	In Control
18	0.0248	0.3571	0	-0.3571	In Control
19	0.0138	0.3470	0	-0.3470	In Control
20	0.0229	0.3378	0	-0.3378	In Control
21	0.0035	0.3292	0	-0.3292	In Control
$\lambda = 0.5$					
1	0.0041	0.0461	0	-0.0461	In Control
2	0.1397	1.4304	0	-1.4304	In Control
3	0.2627	1.0120	0	-1.0120	In Control
4	0.1288	0.8267	0	-0.8267	In Control
5	0.0491	0.7163	0	-0.7163	In Control
6	0.0324	0.6410	0	-0.6410	In Control
7	-0.0157	0.5855	0	-0.5855	In Control
8	-0.0364	0.5423	0	-0.5423	In Control
9	-0.0260	0.5076	0	-0.5076	In Control
10	0.0140	0.4788	0	-0.4788	In Control
11	0.0611	0.4545	0	-0.4545	In Control
12	0.0697	0.4335	0	-0.4335	In Control
13	0.0256	0.4153	0	-0.4153	In Control
14	0.0086	0.3992	0	-0.3992	In Control

**Lampiran 7.** Nilai Bagan Kendali QiHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QiHi	UCL	CL	LCL	Keterangan
15	0.0275	0.3849	0	-0.3849	In Control
16	0.0604	0.3720	0	-0.3720	In Control
17	0.0480	0.3604	0	-0.3604	In Control
18	0.0186	0.3498	0	-0.3498	In Control
19	0.0196	0.3401	0	-0.3401	In Control
20	0.0111	0.3312	0	-0.3312	In Control
21	0.0033	0.3230	0	-0.3230	In Control
$\lambda = 0.7$					
1	0.0220	0.2480	0	-0.2480	In Control
2	0.1793	1.2526	0	-1.2526	In Control
3	0.2071	0.9029	0	-0.9029	In Control
4	0.0802	0.7510	0	-0.7510	In Control
5	0.0203	0.6621	0	-0.6621	In Control
6	-0.0254	0.6025	0	-0.6025	In Control
7	-0.0538	0.5592	0	-0.5592	In Control
8	-0.0558	0.5262	0	-0.5262	In Control
9	0.0091	0.4999	0	-0.4999	In Control
10	0.0918	0.4786	0	-0.4786	In Control
11	0.1586	0.4607	0	-0.4607	In Control
12	0.0278	0.4456	0	-0.4456	In Control
13	-0.0333	0.4326	0	-0.4326	In Control
14	-0.0320	0.4213	0	-0.4213	In Control
15	0.0857	0.4113	0	-0.4113	In Control
16	0.1454	0.4025	0	-0.4025	In Control
17	-0.0188	0.3946	0	-0.3946	In Control
18	-0.0277	0.3875	0	-0.3875	In Control
19	-0.0028	0.3811	0	-0.3811	In Control
20	-0.0457	0.3753	0	-0.3753	In Control
21	-0.0070	0.3700	0	-0.3700	In Control
$\lambda = 0.9$					
1	0.1721	0.8714	0	-0.8714	In Control
2	1.1819	1.0605	0	-1.0605	Out of Control
3	0.8629	0.9706	0	-0.9706	In Control
4	0.7033	0.9387	0	-0.9387	In Control
5	0.6082	0.9224	0	-0.9224	In Control
6	0.5491	0.9124	0	-0.9124	In Control
7	0.5014	0.9057	0	-0.9057	In Control

**Lampiran 7.** Nilai Bagan Kendali QiHWMA ( $0.02 \leq \lambda \leq 0.9$ ) (Lanjutan)

i	QiHi	UCL	CL	LCL	Keterangan
8	0.4660	0.9009	0	-0.9009	<i>In Control</i>
9	0.4399	0.8973	0	-0.8973	<i>In Control</i>
10	0.4220	0.8944	0	-0.8944	<i>In Control</i>
11	0.4087	0.8922	0	-0.8922	<i>In Control</i>
12	0.3976	0.8903	0	-0.8903	<i>In Control</i>
13	0.3793	0.8887	0	-0.8887	<i>In Control</i>
14	0.3647	0.8874	0	-0.8874	<i>In Control</i>
15	0.3547	0.8863	0	-0.8863	<i>In Control</i>
16	0.3493	0.8853	0	-0.8853	<i>In Control</i>
17	0.3438	0.8844	0	-0.8844	<i>In Control</i>
18	0.3315	0.8837	0	-0.8837	<i>In Control</i>
19	0.3236	0.8830	0	-0.8830	<i>In Control</i>
20	0.3186	0.8824	0	-0.8824	<i>In Control</i>
21	0.3109	0.8819	0	-0.8819	<i>In Control</i>

**Lampiran 8. Riwayat Hidup Peneliti****A. Data Pribadi**

1. Nama : Sarliani
2. Tempat, Tanggal Lahir : Usuku, 30 Oktober 1997
3. Alamat : Jalan Merdeka, Kabupaten Sorong Selatan, Papua Barat Daya
4. Kewarganegaraan : Indonesia
5. Nomor HP : +6282146722858
6. Email : Sarliani.asyhari@gmail.com
7. Bidang Ketertarikan : Statistika Pengendalian Kualitas

**B. Riwayat Pendidikan**

1. Tamat SMA tahun 2015 di SMAN 1 Taniwel.
2. Sarjana (S1) tahun 2015 di Universitas Halu Oleo, Jurusan Matematika, Program Studi Statistika.
3. Magister (S2) tahun 2024 di Universitas Hasanuddin, Departemen Statistika, Program Studi Magister Statistika.