

## Daftar Pustaka

Adnan, S. E. . (2006). *Biologi*. Jakarta: Widya Utama.

Akao, Y. (1966). *Quality Function Deployment: Integrating Customer Requirements into Product Design*. Translated by Glenn H. Mazur. Productivity Press.

Akao, Y. (1994). Development History of Quality Function Deployment. *The Customer Driven Approach to Quality Planning and Deployment*, 339(90).

Ampuero, O., & Vila, N. (2006). Consumer perceptions of product packaging. *Journal of Consumer Marketing*, 23(2), 100–112.

Arianty, N. (2017). *Analisis Usaha Industri Rumah Tangga Dalam Meningkatkan Pendapatan Keluarga*. Sumatera Utara: Program Studi Manajemen.

Aufar. (2014). *Definisi UMKM menurut Kementrian Koperasi dan UMKM*. skripsi.  
Averous, L. (2008). Biodegradable multiphase systems based on plasticized starch: A review. *Averous, Luc*, 12, 123–130.

Becker, L., van Rompay, T. J. L., Schifferstein, H. N. J., & Galetzka, M. (2011). Tough package, strong taste: The influence of packaging design on taste impressions and product evaluations. *Food Quality and Preference*, 22(1), 17– 23.  
<https://doi.org/10.1016/j.foodqual.2010.06.007>

Berger, C., Blauth, R., & Boger, D. (1993). Kano's methods for understanding customer-defined quality. *Center for Quality Management Journal*, 2(4), 3– 36.

BPOM. Peraturan Badan Pengawas Obat dan Makanan Nomor 20 Tahun 2019 Tentang Kemasan Pangan (2019). Indonesia.

BPS. (2015). Statistik Indonesia 2015. Retrieved December 25, 2022, from <https://www.bps.go.id/publication/2015/08/12/5933145e1d037f5148a67bac/statistik-indonesia-2015.html>

BPS. (2018). Kota Makassar Dalam Angka 2018. Retrieved December 23, 2022, <https://makassarkota.bps.go.id/publication/2018/08/20/59d48f793ed5fc5ba4254cd3/kota-makassar-dalam-angka-2018.html>

Butkeviciene, V., Stravinskiene, J., & Rutelione, A. (2008). Impact of consumer package communication on consumer decision making process. *Inzinerine*

*Ekonomika-Engineering Economics*, 1, 57–65.

Chai, K. H., Zhang, J., & Tan, K. C. (2005). A TRIZ-Based Method For New Service Design. *Journal of Service Research*, 8(1), 48–66. <https://doi.org/10.1177/1094670505276683>

Coniwanti, P., Laila, L., & Alfira, M. . (2014). Pembuatan Film Plastik Biodegradabel dari Pati Jagung dengan Penambahan Kitosan dan Pemlastis Gliserol. *Teknik Kimia*, 20(4), 22–30.

Dutkiewicz, S., Scott, J. R., & Follows, M. J. (2013). Winners and losers: Ecological and biogeochemical changes in a warming ocean. *Global Biogeochemical Cycles*, 26, 463–477.

Garlotta, D. (2001). A Literature Review Of Poly (Lactic Acid). *Journal of Polymers and the Environment*, 9(2), 63–84.

Ginting, R. (2010). *Prancangan Produk*. Yogyakarta: Graha Ilmu.

Grumezescu, A., & Holban, A. M. (2019). *Sports and Energy Drinks* (10th ed.). Woodhead Publishing.

Guerrero, F., Ciragan, A., & Iwai, H. (2015). Tandem SUMO fusion vectors for improving soluble protein expression and purification. *Protein Expression and Purification*, 116, 42–49. <https://doi.org/10.1016/j.pep.2015.08.019>

Hamdani. (2020). *Mengenal Usaha Mikro Kecil dan Menengah (UMKM) Lebih Dekat*. Ponorogo: Uwais Inspirasi Indonesia.

Hartono, H., Hutomo, K., & Mayangsari, M. (2012). Pengaruh Strategi Pemasaran Terhadap Peningkatan Penjualan Pada Perusahaan” Dengan Menetapkan Alumni Dan Mahasiswa Universitas Bina Nusantara Sebagai Objek Penelitian. *Binus Business Review*, 3(2), 882. <https://doi.org/10.21512/bbr.v3i2.1271>

Howkins, J. (2001). *The Creative Economy: How People Make Money From Ideas* (First Edit). London: Penguin.

Huang, J. (2017). Application of Kano Model in Requirements Analysis of Y Company’s Consulting Project. *American Journal of Industrial and Business Management*, 7(7), 910–918. <https://doi.org/10.4236/ajibm.2017.77064>

Indonesia, P. R. (2008). Undang-Undang Republik Indonesia Nomor 20 Tahun

2008 Tentang Usaha Mikro, Kecil dan Menengah, (1).

Jayanti, Y. ., & Singgih, M. (2012). Peningkatan Kualitas Layanan Pengujian Dan Kalibrasi Peralatan Kesehatan dengan Menggunakan Integrasi Servqual Method, Kano Model Dan Quality Function Deployment (QFD) (Studi Kasus: Balai Pengamanan Fasilitas Kesehatan Jakarta). In *Seminar Nasional Manajemen Teknologi XV. A-49* (pp. 1–9).

Kano, N., Seraku, N., Takahashi, F., & Tsuji, S. (1984). Attractive Quality and Must-Be Quality. *Journal of the Japanese Society for Service Quality Control*, 14(2), 39–48.

Kotler, P. (2005). *Manajemen Pemasaran* (I dan II). Jakarta: Indeks. Martinho, G.,

Pires, A., Portela, G., & Fonseca, M. (2015). Factors Affecting Consumers' Choices Concerning Sustainable Packaging during Product Purchase and Recycling. *Resources, Conservation and Recycling*, 103, 58–68.

Matzler, K., & Hinterhuber, H. H. (1998). How to Make Product Development Projects More Successful by Integrating Kano's Model of Customer Satisfaction into Quality Function Deployment. *Technovation*, 18(1), 25–38. [https://doi.org/10.1016/S0166-4972\(97\)00072-mutucertification.com](https://doi.org/10.1016/S0166-4972(97)00072-mutucertification.com). (n.d.). Pengujian, Inspeksi dan Sertifikasi. Retrieved from <https://mutucertification.com/>

Nagamachi, M. (1995). Kansei Engineering: A New Ergonomic Consumer-Oriented Technology for Product Development. *International Journal of Industrial Ergonomics*, 15(1), 3–11. [https://doi.org/10.1016/0169-8141\(94\)00052-5](https://doi.org/10.1016/0169-8141(94)00052-5)

Osborne Industries. The Properties of Plastic. Maret 19, 2018. <https://www.osborneindustries.com/news/plastic-properties/>

Puspita, Sherly. "Indonesia Penyumbang Sampah Plastik Terbesar Kedua di Dunia." Kompas.com. Agustus 19, 2018. <https://megapolitan.kompas.com/>

Saladin, S. (2003). *Perilaku Konsumen dan Pemasaran Strategik*. Bandung: CV. Linda Karya. Soedarmadji, W., Surachman, S., & Siswanto, E. (2015). Penerapan Konsep Green Manufacturing Pada Botol Minuman Kemasan Plastik. *Journal of Engineering and Management Industrial System*, 3(2), 76–81. <https://doi.org/10.21776/ub.jemis.2015.003.02.3>

Sugiyono, P. (2014). *Metode Penelitian Kombinasi (Mixed Methods)*. Bandung, Alfabeta.

Sundiman, B. T. D. (2021). Pengaruh Inovasi Hijau Terhadap Kinerja Berkelanjutan:

Peran Moderasi Dari Kepedulian Lingkungan Manejerial (Studi Pada UMKM di Batam) [The Effect Of Green Innovation On Sustainable Performance: The Role Of Moderation Of Manejerial Environmental Concern (Study on MSMEs in Batam)]. *DeReMa (Development Research of Management):Jurnal Manajemen*, (Vol 16, No 1(2021):May), 96114. <http://ojs.uph.edu/index.php/DJM/article/view/2505/pdf>

Susanti, Jasruddin, & Subaer. (2015). Sintesis komposit bioplastic berbahan dasar tepung tapioka dengan penguat serat bambu. *Sains Dan Pendidikan Fisika*, 11(2), 179–184.

Tan, K. C., & Pawitra, T. (2001). Integrating Servqual and Kano's Model Into QFD For Service Excellence Development. *Managing Service Quality: An International Journal*, 11(6), 418–430.

Verlegh, P. W. J., Steenkamp, J. B. E. M., & Meulenbergh, M. T. G. (2005). Country- of-Origin Effects in Consumer Processing of Advertising Claims. *International Journal of Research in Marketing*, 22(2), 127–139. <https://doi.org/10.1016/j.ijresmar.2004.05.003>

Widodo, I. D. (2003). *Perencanaan dan Pengembangan Produk* (Pertama). Yogyakarta: UII Press.

Winardi. (2014). *Manajemen Sumber Daya Manusia*. Jakarta: Gramedia Pustaka Utama.

Wismabrata, M. (2018). 5 Fakta Kematian Paus di Wakatobi, 5,9 Kg Sampah Plastik di Perut hingga Ancaman Ekosistem Laut. Retrieved January 2, 2023, from <https://regional.kompas.com/read/2018/11/22/15452011/5-fakta-kematian-paus-di-wakatobi-59-kg-sampah-plastik-di-perut-hingga>

Yuniarti, L. I., Hutomo, G. S., & Rahim, A. (2014). Sintesis dan karakteriasi bioplastik berbasis pati sagu (*Metroxylon* sp). *Agrotekbis*, 2(1), 38–46.

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## LAMPIRAN

### Lampiran 1. Google Form kuesioner kano

# Usulan Green Packaging UMKM Sirup Markisa

Kuesioner ini dibuat dalam rangka kebutuhan penelitian mahasiswa Magister (S2) Teknik Industri Universitas Hasanuddin. Penyebaran kuesioner dilakukan untuk mengukur praktik Green Packaging di UMKM Sirup Markisa Makassar. Besar harapan kami kirannya bapak/ibu/Sdra/Sdri dapat meluangkan waktu untuk berpartisipasi dalam survey ini. Apabila bapak/ibu/Sdra/Sdri memerlukan informasi lanjutan terkait survey ini dapat menghubungi saya, Musdalifah S.T ([musdalifahifa888@gmail.com](mailto:musdalifahifa888@gmail.com)) atau pembimbing tesis saya Dr. Ir. Septa Asmal, ST., MT dan Dr. Ir. Syarifuddin M. Parenreng, ST., MT

informasi terkait Green Packaging UMKM Sirup Markisa di Makassar :

1. UMKM belum menerapkan Green Packaging untuk kemasannya
2. pada penelitian ini penulis ingin melakukan perancangan pengusulan Green Packaging kemasan baru untuk UMKM Sirup Markisa

Jenis Kelamin \*

Pria

Wanita

Kemasan yang digunakan Sirup Markisa memiliki ukuran yang tepat

	Sangat Setuju	Setuju	Netral	Tidak Setuju	Sangat Tidak S...
Tersedia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tidak Tersedia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

kemasan Sirup Markisa menghindari penggunaan kemasan plastik berlebihan.

	Sangat Setuju	Setuju	Netral	Tidak Setuju	Sangat Tidak S...
Tersedia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tidak tersedia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Lampiran 2. Data 100 Responden metode kano

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 TOTAL	
2	3	1	2	2	3	2	2	2	3	2	2	2	3	2	3	34
3	2	2	1	2	1	1	1	1	2	2	1	2	1	1	1	21
4	1	2	1	2	1	2	1	1	1	1	1	1	1	1	2	19
5	1	2	1	2	1	1	1	1	1	1	2	2	1	1	1	19
6	1	1	2	1	1	1	2	1	2	2	1	2	1	2	1	21
7	2	1	2	1	1	1	2	2	1	2	2	1	1	2	2	23
8	2	1	1	2	1	1	1	2	1	1	2	1	2	2	2	22
9	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	17
10	1	1	1	2	1	2	1	2	2	1	2	2	1	2	2	23
11	1	2	1	1	1	2	1	1	2	1	2	2	2	1	1	21
12	1	2	1	2	1	2	1	1	1	2	1	1	2	2	2	22
13	2	2	2	1	2	2	2	1	1	2	1	2	1	2	2	25
14	2	1	2	1	2	1	2	2	1	2	2	1	1	1	2	23
15	1	1	2	1	1	1	1	2	2	1	1	1	2	1	1	19
16	1	2	2	1	2	2	1	2	1	1	1	1	1	2	1	21
17	1	2	2	1	1	2	2	1	2	1	2	1	1	1	2	22
18	3	1	2	1	1	1	1	2	2	1	2	2	1	2	1	23
19	3	1	2	1	2	2	2	2	1	2	1	1	2	1	1	24
20	2	1	1	2	1	2	2	2	2	1	1	2	2	2	1	24
21	3	1	1	2	2	1	2	2	2	2	1	1	2	2	2	26
22	3	2	2	1	1	2	1	2	1	1	2	1	1	2	2	24
23	1	1	2	2	1	2	2	1	2	2	2	1	2	1	1	23
24	1	2	2	2	2	1	1	1	2	1	1	2	1	2	1	22
25	1	2	2	2	2	2	2	2	2	1	1	2	1	2	1	25
26	1	2	2	1	1	1	1	1	1	2	2	1	1	2	2	21
27	3	2	1	1	2	2	2	1	1	1	2	1	2	1	2	24
28	1	2	2	2	2	2	1	2	1	1	2	1	2	2	1	24
29	2	2	2	1	1	2	1	1	2	2	1	1	1	2	1	22
30	2	2	1	2	2	2	2	1	2	1	1	1	2	2	1	24

**Lampiran 3 : Spss data kuesioner**

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	TOTAL
Pearson Correlation	1	-.057	-.290**	.139	.002	.015	-.120	.156	.012	-.017	-.035	.146	-.118	.238*	-.109	.230*
Sig. (2-tailed)		.573	.003	.167	.987	.879	.234	.120	.906	.869	.733	.147	.243	.017	.280	.021
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearson Correlation	-.057	1	.112	-.154	.057	.002	.058	-.021	.002	.100	-.156	.091	.065	-.172	.004	.240*
Sig. (2-tailed)	.573		.269	.127	.573	.985	.568	.836	.982	.321	.120	.368	.522	.087	.972	.016
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearson Correlation	-.290**	.112	1	.077	-.018	-.002	.058	-.196	-.034	.034	-.086	.016	.065	.056	.114	.227*
Sig. (2-tailed)	.003	.269		.449	.855	.985	.568	.051	.736	.738	.396	.871	.518	.577	.259	.023
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearson Correlation	.139	-.154	.077	1	.021	-.002	.140	.059	-.002	-.034	-.089	-.020	-.203*	.018	-.044	.207*
Sig. (2-tailed)	.167	.127	.449		.837	.985	.165	.558	.982	.733	.378	.843	.043	.855	.661	.039
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearson Correlation	.002	.057	-.018	.021	1	-.132	-.040	-.006	-.012	-.053	.035	.003	.050	.043	.028	.237*
Sig. (2-tailed)	.987	.573	.855	.837		.192	.693	.953	.906	.601	.733	.977	.621	.668	.785	.018
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearson Correlation	.015	.002	-.002	-.002	-.132	1	.174	.142	.117	-.066	.021	-.061	-.031	-.027	.100	.316**
Sig. (2-tailed)	.879	.985	.985	.985	.192		.083	.160	.247	.516	.837	.545	.759	.789	.321	.001
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearson Correlation	-.120	.058	.058	.140	-.040	.174	1	-.075	.083	.052	.000	.074	.186	-.120	.020	.379**
Sig. (2-tailed)	.234	.568	.568	.165	.693	.083		.458	.413	.606	1.000	.461	.064	.233	.841	.000





Pearson Correlation	-.109	.004	.114	-.044	.028	.100	.020	.008	-.122	-.032	-.012	-.146	.072	.169	1	.246*
Sig. (2-tailed)	.280	.972	.259	.661	.785	.321	.841	.934	.226	.750	.908	.147	.478	.093		.014
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearson Correlation	.230*	.240*	.227*	.207*	.237*	.316**	.379**	.205*	.356**	.293**	.230*	.238*	.260**	.207*	.246*	1
Sig. (2-tailed)	.021	.016	.023	.039	.018	.001	.000	.041	.000	.003	.021	.017	.009	.038	.014	
N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Cronbach's Alpha	N of Items
.530	15



### Lampiran 3. Data SPSS

#### Correlations

		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	TOTAL
P1	Pearson Correlation	1	-.049	.149	-.046	.069	.068	-.002	-.005	-.071	.104	.215*	.075	.053	.051	.269**	.346**
	Sig. (2-tailed)		.629	.139	.652	.494	.502	.987	.964	.480	.301	.032	.455	.602	.616	.007	.000
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P2	Pearson Correlation	-.049	1	.130	-.095	.140	.152	-.133	.061	.050	-.056	.182	.060	-.012	.162	-.129	.203*
	Sig. (2-tailed)	.629		.197	.346	.164	.131	.188	.549	.622	.580	.071	.552	.903	.108	.200	.043
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P3	Pearson Correlation	.149	.130	1	-.027	.279**	.259**	.112	.399**	.109	.181	.259**	.292**	.149	.273**	.228*	.606**
	Sig. (2-tailed)	.139	.197		.786	.005	.009	.268	.000	.279	.071	.009	.003	.139	.006	.023	.000
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P4	Pearson Correlation	-.046	-.095	-.027	1	.200*	-.112	.077	.018	.117	.050	.157	.196	.266*	.054	.222*	.331**
	Sig. (2-tailed)	.652	.346	.786		.046	.266	.446	.862	.247	.622	.118	.050	.007	.593	.027	.001
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P5	Pearson Correlation	.069	.140	.279**	.200*	1	.169	.120	.080	.112	.178	.223*	.167	.274*	.040	.093	.502**
	Sig. (2-tailed)	.494	.164	.005	.046		.093	.236	.430	.267	.076	.026	.097	.006	.695	.359	.000
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P6	Pearson Correlation	.068	.152	.259**	-.112	.169	1	.301**	.116	-.024	.074	.108	.077	.058	.140	.100	.378**
	Sig. (2-tailed)	.502	.131	.009	.266	.093		.002	.251	.810	.464	.284	.448	.566	.165	.324	.000
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P7	Pearson Correlation	-.002	-.133	.112	.077	.120	.301**	1	.206*	.043	.268**	.155	.098	.212*	-.016	.300**	.427**
	Sig. (2-tailed)	.987	.188	.268	.446	.236	.002		.039	.669	.007	.125	.334	.034	.873	.002	.000
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P8	Pearson Correlation	-.005	.061	.399**	.018	.080	.116	.206*	1	.137	.171	.211*	.225*	.139	.212*	.127	.488**
	Sig. (2-	.964	.549	.000	.862	.430	.251	.039		.175	.089	.035	.024	.167	.034	.207	.000

tailed)																	
N		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P9	Pearson Correlation	-.071	.050	.109	.117	.112	-.024	.043	.137	1	-.106	-.056	.238*	.076	.064	.014	.252*
	Sig. (2-tailed)	.480	.622	.279	.247	.267	.810	.669	.175	.293	.578	.017	.455	.528	.887	.011	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P10	Pearson Correlation	.104	-.056	.181	.050	.178	.074	.268**	.171	-.106	1	.096	.164	.095	-.022	.211*	.390**
	Sig. (2-tailed)	.301	.580	.071	.622	.076	.464	.007	.089	.293	.340	.104	.349	.829	.035	.000	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P11	Pearson Correlation	.215*	.182	.259**	.157	.223*	.108	.155	.211*	-.056	.096	1	.177	.138	.214*	.227*	.528**
	Sig. (2-tailed)	.032	.071	.009	.118	.026	.284	.125	.035	.578	.340	.078	.170	.033	.023	.000	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P12	Pearson Correlation	.075	.060	.292**	.196	.167	.077	.098	.225*	.238*	.164	.177	1	.030	.229*	.071	.495**
	Sig. (2-tailed)	.455	.552	.003	.050	.097	.448	.334	.024	.017	.104	.078	.764	.022	.483	.000	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P13	Pearson Correlation	.053	-.012	.149	.266**	.274**	.058	.212*	.139	.076	.095	.138	.030	1	.103	.180	.431**
	Sig. (2-tailed)	.602	.903	.139	.007	.006	.566	.034	.167	.455	.349	.170	.764	.310	.073	.000	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P14	Pearson Correlation	.051	.162	.273**	.054	.040	.140	-.016	.212*	.064	-.022	.214*	.229*	.103	1	.202*	.414**
	Sig. (2-tailed)	.616	.108	.006	.593	.695	.165	.873	.034	.528	.829	.033	.022	.310	.044	.000	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
P15	Pearson Correlation	.269**	-.129	.228*	.222*	.093	.100	.300**	.127	.014	.211*	.227*	.071	.180	.202*	1	.504**
	Sig. (2-tailed)	.007	.200	.023	.027	.359	.324	.002	.207	.887	.035	.023	.483	.073	.044	.000	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
TOTA	Pearson	.346**	.203*	.606**	.331**	.502**	.378**	.427**	.488**	.252*	.390**	.528**	.495**	.431*	.414**	.504**	1

L	Correlation																
	Sig. (2-tailed)	.000	.043	.000	.001	.000	.000	.000	.000	.011	.000	.000	.000	.000	.000	.000	
	N	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

#### Reliability Statistics

Cronbach's Alpha	N of Items
.691	15



### Lampiran 4 : Dokumentasi UMKM Aurora

