

Supplementary Material: MANOVA results

Table S1: Multivariate result – three-independent variables interaction

Multivariate Tests ^a						
Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Demand *						
Lifetime *	.999	1353.574 ^b	27.000	46.000	.000	.999 ^c
Lost sales						

a. Design: Demand * Lifetime * Lost sales

b. Exact statistic

c. Partial η^2 : Large effect size

Table S2: Multivariate result – Two-independent variables interaction

Multivariate Tests ^a						
Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Demand *	1.000	71941.619 ^b	27.000	46.000	.000	1.000 ^c
Lifetime						
Demand *	1.000	63363.439 ^b	27.000	46.000	.000	1.000 ^c
Lost sales						
Lifetime *	1.000	6003.494 ^b	27.000	46.000	.000	1.000 ^c
Lost sales						

a. Design: Demand * Lifetime * Lost sales

b. Exact statistic

c. Partial η^2 : Large effect size

Table S3: Multivariate result – Main effect

Multivariate Tests ^a						
Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Demand	1.000	4325365.881 ^b	27.000	46.000	.000	1.000 ^c
Lifetime	1.000	365920.119 ^b	27.000	46.000	.000	1.000 ^c
Lost sales	1.000	135578.830 ^b	27.000	46.000	.000	1.000 ^c

a. Design: Demand * Lifetime * Lost sales

b. Exact statistic

c. Partial η^2 : Large effect size

Table S4: Univariate results – Interaction of three independent variables

Tests of Between-Subjects Effects					
Dependent variable ¹	df	F	Sig.	Partial η^2	Effect size
AI1-1	1	29.038	.000	.287	small
AI1-2	1	17.647	.000	.197	negligible
AI1-3	1	37.068	.000	.340	small
AI2-1	1	44.520	.000	.382	small
AI2-2	1	23.586	.000	.247	small
AI2-3	1	11.089	.001	.133	negligible
AI3-1	1	2232.744	.000	.969	large
AI3-2	1	2098.244	.000	.967	large
AI3-3	1	2562.790	.000	.973	large

FR1-1	1	110.935	.000	.606	medium
FR1-2	1	100.822	.000	.583	medium
FR1-3	1	61.649	.000	.461	small
FR2-1	1	106.324	.000	.596	medium
FR2-2	1	54.396	.000	.430	small
FR2-3	1	85.548	.000	.543	medium
FR3-1	1	14.999	.000	.172	negligible
FR3-2	1	49.139	.000	.406	small
FR3-3	1	28.466	.000	.283	small
OR1-1	1	65.007	.000	.474	small
OR1-2	1	26.520	.000	.269	small
OR1-3	1	43.946	.000	.379	small
OR2-1	1	29.768	.000	.293	small
OR2-2	1	38.149	.000	.346	small
OR2-3	1	12.387	.001	.147	negligible
OR3-1	1	12307.759	.000	.994	large
OR3-2	1	8314.796	.000	.991	large
OR3-3	1	11477.748	.000	.994	large

AI1-1 means Average Inventory at Retailer 1, product 1, and so on. Retailer 3 means Supplier.

Table S5: Univariate results – Interaction of product lifetime and lost sales probability
Tests of Between-Subjects Effects

Dependent variable ¹	df	F	Sig.	Partial η^2	Effect size
AI1-1	1	31.324	.000	.303	small
AI1-2	1	44.353	.000	.381	small
AI1-3	1	18.490	.000	.204	small
AI2-1	1	44.159	.000	.380	small
AI2-2	1	24.959	.000	.257	small
AI2-3	1	44.193	.000	.380	small
AI3-1	1	3696.243	.000	.981	large
AI3-2	1	3518.565	.000	.980	large
AI3-3	1	4191.648	.000	.983	large
FR1-1	1	132.005	.000	.647	medium
FR1-2	1	113.941	.000	.613	medium
FR1-3	1	110.727	.000	.606	medium
FR2-1	1	101.850	.000	.586	medium
FR2-2	1	85.774	.000	.544	medium
FR2-3	1	101.723	.000	.586	medium
FR3-1	1	15650.109	.000	.995	large
FR3-2	1	16887.078	.000	.996	large
FR3-3	1	16795.416	.000	.996	large
OR1-1	1	63.279	.000	.468	small
OR1-2	1	99.063	.000	.579	medium
OR1-3	1	84.262	.000	.539	medium
OR2-1	1	86.421	.000	.546	medium
OR2-2	1	82.257	.000	.533	medium
OR2-3	1	41.708	.000	.367	small
OR3-1	1	2967.121	.000	.976	large

OR3-2	1	1953.215	.000	.964	large
OR3-3	1	2649.886	.000	.974	large

AI1-1 means Average Inventory at Retailer 1, product 1, and so on. Retailer 3 means Supplier.

Table S6: Univariate results – Interaction of consumer demand and lost sales probability
Tests of Between-Subjects Effects

Dependent variable ¹	df	F	Sig.	Partial η^2	Effect size
AI1-1	1	71.822	.000	.499	small
AI1-2	1	84.468	.000	.540	medium
AI1-3	1	83.944	.000	.538	medium
AI2-1	1	96.382	.000	.572	medium
AI2-2	1	66.466	.000	.480	small
AI2-3	1	73.879	.000	.506	medium
AI3-1	1	2219.389	.000	.969	large
AI3-2	1	2360.941	.000	.970	large
AI3-3	1	2785.510	.000	.975	large
FR1-1	1	304.085	.000	.809	large
FR1-2	1	223.965	.000	.757	medium
FR1-3	1	238.717	.000	.768	medium
FR2-1	1	250.035	.000	.776	medium
FR2-2	1	193.495	.000	.729	medium
FR2-3	1	234.548	.000	.765	medium
FR3-1	1	388241.676	.000	1.000	large
FR3-2	1	416345.849	.000	1.000	large
FR3-3	1	417326.814	.000	1.000	large
OR1-1	1	212.855	.000	.747	medium
OR1-2	1	196.810	.000	.732	medium
OR1-3	1	166.773	.000	.698	medium
OR2-1	1	138.069	.000	.657	medium
OR2-2	1	122.297	.000	.629	medium
OR2-3	1	79.910	.000	.526	medium
OR3-1	1	18028.499	.000	.996	large
OR3-2	1	12027.632	.000	.994	large
OR3-3	1	16342.886	.000	.996	large

AI1-1 means Average Inventory at Retailer 1, product 1, and so on. Retailer 3 means Supplier.

Table S7: Univariate results – Interaction of consumer demand and product lifetime
Tests of Between-Subjects Effects

Dependent variable ¹	df	F	Sig.	Partial η^2	Effect size
AI1-1	1	66295.566	.000	.999	large
AI1-2	1	61030.325	.000	.999	large
AI1-3	1	67188.704	.000	.999	large
AI2-1	1	79541.411	.000	.999	large
AI2-2	1	54011.667	.000	.999	large
AI2-3	1	67028.477	.000	.999	large
AI3-1	1	65114.087	.000	.999	large

AI3-2	1	64223.872	.000	.999	large
AI3-3	1	75085.680	.000	.999	large
FR1-1	1	22840.964	.000	.997	large
FR1-2	1	24649.503	.000	.997	large
FR1-3	1	23878.378	.000	.997	large
FR2-1	1	23166.074	.000	.997	large
FR2-2	1	19595.598	.000	.996	large
FR2-3	1	18432.567	.000	.996	large
FR3-1	1	54882.205	.000	.999	large
FR3-2	1	58381.155	.000	.999	large
FR3-3	1	58135.097	.000	.999	large
OR1-1	1	75693.576	.000	.999	large
OR1-2	1	75992.575	.000	.999	large
OR1-3	1	75440.788	.000	.999	large
OR2-1	1	61759.294	.000	.999	large
OR2-2	1	72611.120	.000	.999	large
OR2-3	1	37836.188	.000	.998	large
OR3-1	1	274522.408	.000	1.000	large
OR3-2	1	182568.425	.000	1.000	large
OR3-3	1	247546.636	.000	1.000	large

AI1-1 means Average Inventory at Retailer 1, product 1, and so on. Retailer 3 means Supplier.

Table S8: Univariate results – Main effects of consumer demand
Tests of Between-Subjects Effects

Dependent variable ¹	df	F	Sig.	Partial η^2	Effect size
AI1-1	1	792821.898	.000	1.000	large
AI1-2	1	743725.940	.000	1.000	large
AI1-3	1	814052.291	.000	1.000	large
AI2-1	1	958870.473	.000	1.000	large
AI2-2	1	659459.124	.000	1.000	large
AI2-3	1	822382.660	.000	1.000	large
AI3-1	1	1567213.085	.000	1.000	large
AI3-2	1	1527095.278	.000	1.000	large
AI3-3	1	1817039.330	.000	1.000	large
FR1-1	1	278787.369	.000	1.000	large
FR1-2	1	293331.239	.000	1.000	large
FR1-3	1	287808.564	.000	1.000	large
FR2-1	1	284659.200	.000	1.000	large
FR2-2	1	230050.186	.000	1.000	large
FR2-3	1	221653.781	.000	1.000	large
FR3-1	1	5777185.718	.000	1.000	large
FR3-2	1	6172582.746	.000	1.000	large
FR3-3	1	6177244.413	.000	1.000	large
OR1-1	1	1615851.798	.000	1.000	large
OR1-2	1	1606176.810	.000	1.000	large
OR1-3	1	1594596.971	.000	1.000	large
OR2-1	1	1314812.064	.000	1.000	large
OR2-2	1	1565875.786	.000	1.000	large

OR2-3	1	807719.873	.000	1.000	large
OR3-1	1	11100809.123	.000	1.000	large
OR3-2	1	7407673.533	.000	1.000	large
OR3-3	1	10011275.540	.000	1.000	large

AI1-1 means Average Inventory at Retailer 1, product 1, and so on. Retailer 3 means Supplier.

Table S9: Univariate results – Main effects of product lifetime
Tests of Between-Subjects Effects

Dependent variable ¹	df	F	Sig.	Partial η^2	Effect size
AI1-1	1	1160483.794	.000	1.000	large
AI1-2	1	1094917.174	.000	1.000	large
AI1-3	1	1196644.547	.000	1.000	large
AI2-1	1	1406518.147	.000	1.000	large
AI2-2	1	970104.740	.000	1.000	large
AI2-3	1	1203156.149	.000	1.000	large
AI3-1	1	71551.923	.000	.999	large
AI3-2	1	70530.914	.000	.999	large
AI3-3	1	82309.651	.000	.999	large
FR1-1	1	111207.196	.000	.999	large
FR1-2	1	120534.764	.000	.999	large
FR1-3	1	117598.009	.000	.999	large
FR2-1	1	114871.095	.000	.999	large
FR2-2	1	95397.932	.000	.999	large
FR2-3	1	91110.889	.000	.999	large
FR3-1	1	1219508.132	.000	1.000	large
FR3-2	1	1306659.534	.000	1.000	large
FR3-3	1	1306673.397	.000	1.000	large
OR1-1	1	156378.342	.000	1.000	large
OR1-2	1	156277.188	.000	1.000	large
OR1-3	1	155417.900	.000	1.000	large
OR2-1	1	126986.890	.000	.999	large
OR2-2	1	150287.352	.000	1.000	large
OR2-3	1	78588.197	.000	.999	large
OR3-1	1	635819.423	.000	1.000	large
OR3-2	1	424789.412	.000	1.000	large
OR3-3	1	574228.433	.000	1.000	large

AI1-1 means Average Inventory at Retailer 1, product 1, and so on. Retailer 3 means Supplier.

Table S10: Univariate results – Main effects of lost sales probability
Tests of Between-Subjects Effects

Dependent variable ¹	df	F	Sig.	Partial η^2	Effect size
AI1-1	1	125.793	.000	.636	medium
AI1-2	1	109.784	.000	.604	medium
AI1-3	1	120.850	.000	.627	medium
AI2-1	1	167.122	.000	.699	medium
AI2-2	1	83.731	.000	.538	medium

AI2-3	1	93.652	.000	.565	medium
AI3-1	1	9879.349	.000	.993	large
AI3-2	1	10120.507	.000	.993	large
AI3-3	1	11819.755	.000	.994	large
FR1-1	1	344.696	.000	.827	large
FR1-2	1	206.104	.000	.741	medium
FR1-3	1	273.630	.000	.792	medium
FR2-1	1	269.033	.000	.789	medium
FR2-2	1	218.248	.000	.752	medium
FR2-3	1	237.239	.000	.767	medium
FR3-1	1	664051.361	.000	1.000	large
FR3-2	1	709602.007	.000	1.000	large
FR3-3	1	710005.749	.000	1.000	large
OR1-1	1	266.181	.000	.787	medium
OR1-2	1	310.304	.000	.812	large
OR1-3	1	322.789	.000	.818	large
OR2-1	1	250.024	.000	.776	medium
OR2-2	1	367.317	.000	.836	large
OR2-3	1	153.082	.000	.680	medium
OR3-1	1	198866.684	.000	1.000	large
OR3-2	1	133285.617	.000	.999	large
OR3-3	1	179015.700	.000	1.000	large

AI1-1 means Average Inventory at Retailer 1, product 1, and so on. Retailer 3 means Supplier.