

# Logistics Project Management Online Session

**Topic: Supplier Management - Supplier Performance Metrics (SPM)**

**Solution of the Exercise**

The Excel file named 'Data\_Exercise\_To\_Do.xlsx' includes 1 table that records

- The list of orders of Video Games for Fnac and Micromania for the 4 years: 2016-2017-2018-2019.

Screenshot in Figure 1

Buyer	Game Editor Vendor	Product Code	Number sold in 2016	Total customer returns of defective items in 2016	Number sold in 2017	Total customer returns of defective items in 2017	Number sold in 2018	Total customer returns of defective items in 2018	Number sold in 2019	Total customer returns of defective items in 2019
Fnac	Nintendo	GD05337Y6A2	60		378		385		523	
Fnac	Microsoft Xbox	HW6758F646E3	120	2	594	4	685		813	
Fnac	Atari 2600	YH665734V44E5	76		379		653		538	
Fnac	Nintendo	T364816 2845	18		154	6	169		237	3
Fnac	Sony Playstation	Y423F4H6523	89		1226		2348		3256	
Fnac	Microsoft Xbox	638FC641E42DG	286	5	2752		5384		7428	
Fnac	Sony Playstation	534F22 2K05	142		1917		3516		5017	
Fnac	Nintendo	748C623470E2	29		456		797	4	1121	
Fnac	Sony Playstation	653FG829H6422	286		120		66		1342	4
Fnac	Microsoft Xbox	74GZF2HJEJ	76		378		76		76	
Micromania	Nintendo	6159355545	14		49		5017		48	
Micromania	Sony Playstation	6864233532346	286		120	2	120		5017	2
Micromania	Nintendo	61432244211	76		76		32		76	
Micromania	Sony Playstation	D6456638683873H	378		48		44		76	1
Micromania	Sony Playstation	GT324532706	76	3	5017		378		48	
Micromania	Microsoft Xbox	JHJ777777	55		55		34	5	5017	
Micromania	Nintendo	GT57532264311	76		120		33		542	
Micromania	Atari 2600	U88786 7763H664	378		48		34		76	4
Micromania	Sony Playstation	H674532248532	286		120		65		378	
Micromania	Microsoft Xbox	H6766476643G	55		66		65		634	
Micromania	Sony Playstation	GG323232444566	76	2	48		76		5017	
Micromania	Microsoft Xbox	HW775414556	378		378		54		76	
Micromania	Nintendo	H6855422465323	55		120	1	101	1	148	1

Figure 1

Provide the following Key Performance Indicators in Supplier Management:

- **The Number of SKU Managed (N-SKU-M),**

The Number of SKUs must be computed for each company. In the Excel file, we have 2 companies: Fnac and Micromania. It means we have 2 N-SKU-M to compute.

For each company, the SKU is the total items handled in the inventories. Therefore, we have to sum all the items for each year. Then, we have to sum the total of the years.

We find:

The Number of SKU managed (N-SKU-M) of Fnac = 42,096

The Number of SKU managed (N-SKU-M) of Micromania = 28,691

Please follow these steps in the Excel file Solution 'Data\_Exercise\_To\_Do\_Solution.xlsx' (Figure 2).

	A	B	C	D	E	F	G	H	I	J	K
	Buyer	Game Editor Vendor	Product Code	Number sold in 2016	Total customer returns of	Number sold in 2017	Total customer returns of	Number sold in 2018	Total customer returns of	Number sold in 2019	Total customer returns of
1	Fnac	Nintendo	GDD533FTY64Z	60		378		385		521	
2	Fnac	Microsoft Xbox	HY67546FG4663	120	2	594	4	688		811	
3	Fnac	Atari 2600	YH665Y744Y44F5	76		379		455		534	
4	Fnac	Nintendo	T5643567845	18		154	5	169		237	3
5	Fnac	Sony Playstation	Y423FHUR5Z23	89		1,226		2,148		3,256	
6	Fnac	Microsoft Xbox	63RFC544TE42DG	286	5	2,752		5,394		7,428	
7	Fnac	Sony Playstation	534FZ222RDS	142		1,917		3,516		5,017	
8	Fnac	Nintendo	74RGDE3ATGFZ	29		456		797	4	1,171	
9	Fnac	Sony Playstation	653FGRZDFHE42Z	286		120		66		1342	4
10	Fnac	Microsoft Xbox	74GFZEHEU	76		379		76		76	
11		<b>Number of SKU managed (N-SKU-M)</b>	<b>42,096</b>	<b>1,182</b>		<b>8,235</b>		<b>13,628</b>		<b>19,051</b>	
12	Micromania	Nintendo	GT552355345	11		43		5,017		43	
13	Micromania	Sony Playstation	GH54235532346	286		120	2	35		5,017	2
14	Micromania	Nintendo	GT4322244211	76		76		32		76	1
15	Micromania	Sony Playstation	DE4566366336T3F4	379		43		44		76	
16	Micromania	Sony Playstation	GT2345532TG6	76	3	5,017		379		43	
17	Micromania	Microsoft Xbox	JHU777777	55		55		34	5	5,017	
18	Micromania	Nintendo	GT57532264311	76		120		33		542	
19	Micromania	Atari 2600	IU887667765H664	379		43		34		76	4
20	Micromania	Sony Playstation	HU75423244532	286		120		65		379	
21	Micromania	Microsoft Xbox	HGT664FT6643G	55		66		65		634	
22	Micromania	Sony Playstation	GG321121444566	76	2	43		76		5,017	
23	Micromania	Microsoft Xbox	HI6775424556	379		379		54	1	76	
24	Micromania	Nintendo	HGR5422465323	55		120	1	101		143	1
25		<b>Number of SKU managed (N-SKU-M)</b>	<b>28,691</b>	<b>2,013</b>		<b>5,472</b>		<b>5,472</b>		<b>15,734</b>	

Figure 2

**The Number of Suppliers Managed (NSM),**

Suppliers of Micromania and Fnac are the editors of the games. We have 2 NSM to compute for each company:

The Number of Suppliers Managed (NSM) for Fnac is 4: (Atari 2600, Microsoft Xbox, Nintendo, Sony Playstation)

The Number of Suppliers Managed (NSM) for Micromania is 4: (Atari 2600, Microsoft Xbox, Nintendo, Sony Playstation)

Please follow these steps in the Excel file Solution 'Data\_Exercise\_To\_Do\_Solution.xlsx' (Figure 3).

	A	B	C	D	E	F	G	H
	Buyer	Game Editor Vendor	Product Code	Number sold in 2016	Total customer returns of defective items in 2016	Number sold in 2017	Total customer returns of defective items in 2017	Number sold in 2018
1	Fnac	Atari 2600	YH665Y744Y44F5	76		379		455
2	Fnac	Microsoft Xbox	HY67546FG4663	120	2	594	4	688
3	Fnac	Nintendo	63RFC544TE42DG	286	5	2,752		5,394
4	Fnac	Sony Playstation	74GFZEHEU	76		379		76
5	Fnac	Nintendo	GDD533FTY64Z	60		378		385
6	Fnac	Microsoft Xbox	T5643567845	18		154	5	169
7	Fnac	Sony Playstation	74RGDE3ATGFZ	29		456		797
8	Fnac	Nintendo	Y423FHUR5Z23	89		1,226		2,148
9	Fnac	Sony Playstation	534FZ222RDS	142		1,917		3,516
10	Fnac	Microsoft Xbox	653FGRZDFHE42Z	286		120		66
11		<b>Number of Suppliers Managed (NSM)</b>	<b>4</b>					
12	Micromania	Atari 2600	IU887667765H664	379		43		34
13	Micromania	Microsoft Xbox	HGT664FT6643G	55		66		65
14	Micromania	Microsoft Xbox	HY675424556	379		379		54
15	Micromania	Nintendo	GT552355345	11		43		5,017
16	Micromania	Nintendo	GT4322244211	76		76		32
17	Micromania	Nintendo	GT57532264311	76		120		33
18	Micromania	Nintendo	HGR5422465323	55		120	1	101
19	Micromania	Atari 2600	IU887667765H664	379		120	2	35
20	Micromania	Microsoft Xbox	HGT664FT6643G	379		43		44
21	Micromania	Sony Playstation	DE4566366336T3F4	379		5,017		379
22	Micromania	Sony Playstation	GT2345532TG6	76	3	120		65
23	Micromania	Microsoft Xbox	HU75423244532	286		76		76
24	Micromania	Sony Playstation	GG321121444566	76	2	43		43
25		<b>Number of Suppliers Managed (NSM)</b>	<b>4</b>					

Figure 3

**The Perfect Purchase Order Percentage (PPOP).**

For each company, the PPOP must be computed for each supplier. The steps are as following: For each company, and for each supplier:

- o Compute the total SKU for all the years
- o Compute the total defective items for all the years
- o Compute the PPOP

Please follow these steps in the Excel file Solution 'Data\_Exercise\_To\_Do\_Solution.xlsx' (Figure 4).

Depr	Game Editor Vendor	Product Code	Number sold in 2016	Total customer returns of defective items in 2016	Number sold in 2017	Total customer returns of defective items in 2017
Fnac	Atari 2600	YH865V244Y44FX	76		379	
	<b>Number of SKU managed (N-Total Defective items)</b>	<b>1,444</b>	76	0	379	0
	<b>PPOP</b>	<b>100.00%</b>				
Fnac	Microsoft Xbox	HY8784P434623	130	2	594	4
Fnac		839FC544TE42DG	286	5	2752	
Fnac		74GF2EHJEEU	76		379	
	<b>Number of SKU managed (N-Total Defective items)</b>	<b>16,680</b>	482	7	3,725	4
	<b>PPOP</b>	<b>99.94%</b>				
Fnac	Nintendo	GD033PT1Y64Z	60		379	
Fnac		T6643667946	18		154	5
Fnac		74R03CJATQF2	29		496	
	<b>Number of SKU managed (N-Total Defective Items)</b>	<b>4,375</b>	197	0	889	5
	<b>PPOP</b>	<b>99.73%</b>				
Fnac	Sony Playstation	Y4289H05223	89		1226	
Fnac		534F2222PDS	142		1917	
Fnac		853FGR2DFE42Z	286		120	
	<b>Number of SKU managed (N-Total Defective items)</b>	<b>19,125</b>	597	0	3,263	0
	<b>PPOP</b>	<b>99.98%</b>				
Micromania	Atari 2600	8J897687705H464	379		43	
	<b>Number of SKU managed (N-Total Defective items)</b>	<b>532</b>	379	0	43	0
	<b>PPOP</b>	<b>99.25%</b>				
Micromania	Microsoft Xbox	JH4U77777	55		55	
Micromania		H6T564FT8643G	55		66	
Micromania		HY8776424556	379		379	
	<b>Number of SKU managed (N-Total Defective items)</b>	<b>6,869</b>	489	0	500	0

Figure 4

Please note the result of PPOP ranking of suppliers in the following screen shot (available in the last sheet in the Excel file). As you can see, a supplier can have different PPOP and then different ranking for companies. For example, Atari is ranked in the first position for Fnac (with PPOP=100%) while it is ranked at the last position for Micromania (99.25%):

		PPOP
Fnac	Atari 2600	100.00%
	Sony Playstation	99.98%
	Microsoft Xbox	99.94%
	Nintendo	99.73%
		PPOP
Micromania	Nintendo	99.97%
	Sony Playstation	99.95%
	Microsoft Xbox	99.90%
	Atari 2600	99.25%