

# Diseño de políticas de inventario de materia prima local para una compañía dedicada a la fabricación productos tissue y de cuidado personal.

## ESTABLECIMIENTO DE OPORTUNIDAD



El área de planificación del abastecimiento de una compañía tissue y de cuidado personal



Necesita diseñar políticas de inventario para la materia prima local crítica



Porque en los últimos 6 meses han presentado excesos y desabastos



Que no permiten cumplir con el plan de producción y generan altos costos en inventario

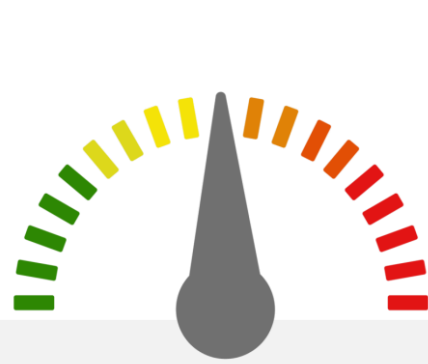
## OBJETIVO GENERAL

Diseñar una política de inventario para la materia prima local crítica que permita el mantenimiento de niveles óptimos de stocks, reduciendo los costos de inventario y asegurando abastecimiento continuo para las operaciones productivas.

## OBJETIVOS ESPECÍFICOS



Clasificar mediante la priorización de inventario crítico.



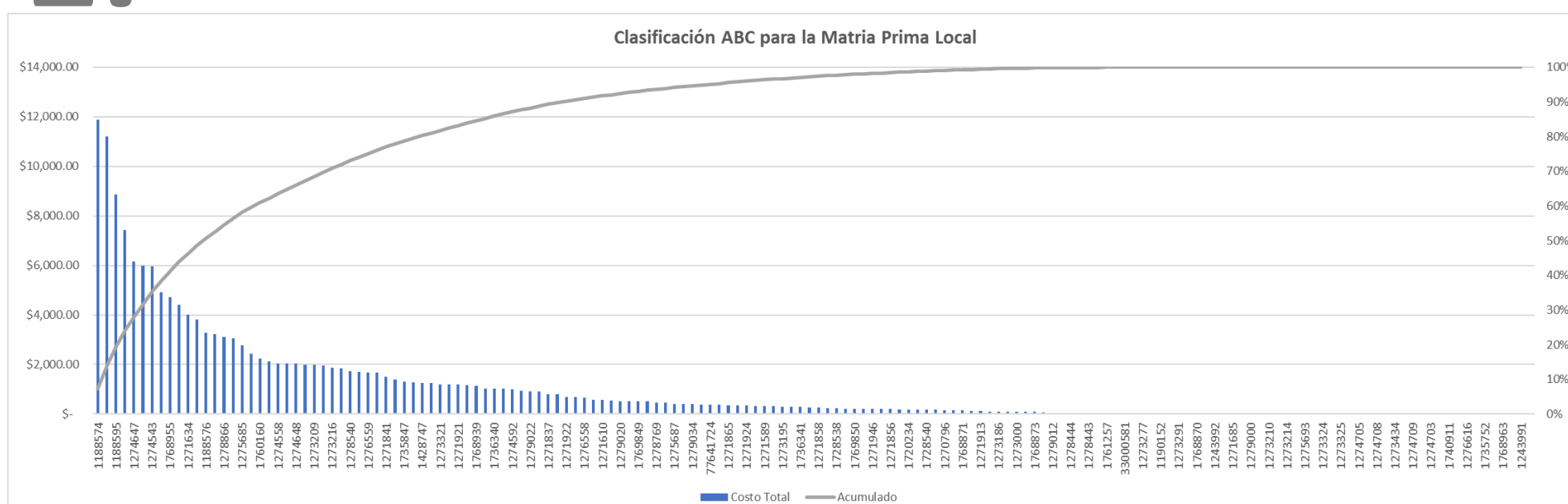
Definir indicadores de medición apropiados.



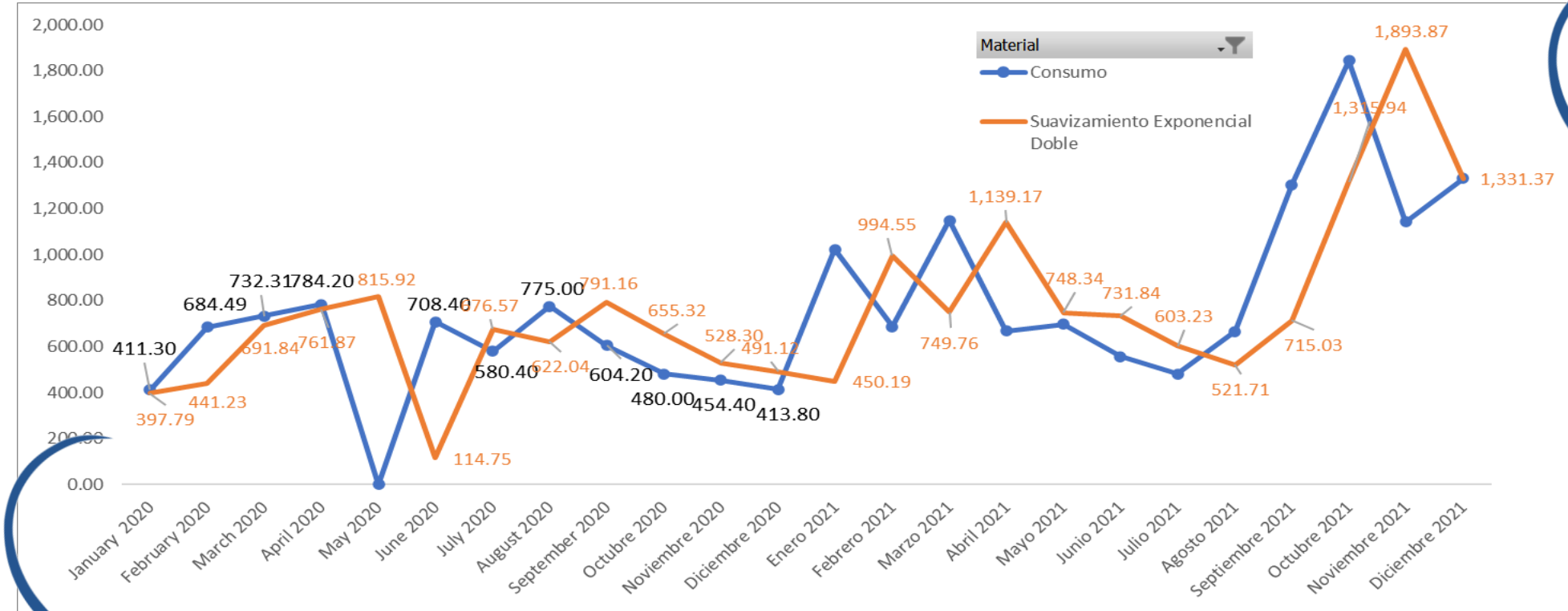
Validar el modelo con las necesidades del cliente.

## PROPUESTA

### 1. Clasificación ABC para la Materia Prima Local



### 2. Pronóstico de Demanda de Materia Prima Local Crítica



#### Medición de Precisión del Pronóstico

Materia	UDM	Método de Pronóstico	MAD	TS
1278863	KG	Double Exponential Smoothing	638.24	-4.52 a 1.82
1768941	UN	Double Exponential Smoothing	76553.35	-3.56 a 3.66
1768968	UN	Double Exponential Smoothing	20439.88	-4.58 a 2.76
1278865	KG	Five Period Moving Average	427.26	-5.52 a 2.72
1278866	KG	Four Period Moving Average	240.70	-2.61 a 5.07
1271841	KG	Simple Exponential Smoothing	150.76	-2 a 4.83
1188576	KG	Simple Exponential Smoothing	1231.02	-2.63 a 3.33
1274647	KG	Simple Exponential Smoothing	525.12	-0.76 a 4
1278998	KG	Simple Exponential Smoothing	20.71	-2.04 a 3.49
1760160	UN	Simple Exponential Smoothing	609.38	-2.77 a 3.14

### 3. Generar Base para el Modelo Básico (s,Q) Reabastecimiento Continuo

DEMANDA											
Categoría	Materia	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25
Film PH	1278417	1405.35634	1482.45401	1395.62051	1391.15370	1387.02967	1387.74627	1390.92337	1387.39023	1386.40570	1386.40570
Funda IF	1768968	6429.35388	7009.25756	9058.50238	9645.6566	10083.7754	90134.5146	134207.6813	170314.6654	17006.4358	17006.4358
Rodeta tubete	1188576	4749.68044	4749.68023	4436.72277	4722.46439	4241.403548	4215.70442	4092.22005	3822.66787	3670.40037	3670.40037
Film grafted	1278584	472.112794	504.486237	504.486237	533.7576463	537.0957248	543.4349325	607.730704	627.730704	546.730424	546.730424
Funda tubo	1768941	24861.9	33007.1	33334.4	30771.34	14597.41	15379.245	17051.6434	12308.278	1477.04204	1477.04204
Film ensacado	1278866	961.26	1025.3	1044.84	1071.1	1133.32	1136.7979	1189.24085	1186.66748	1137.03348	1137.03348
Film PH	1278217	435.76875	381.04855	332.237787	301.295781	312.432454	344.993381	387.4061578	348.506738	355.101375	355.101375
Film ensacado	1278865	1257.4	1266.022	1451.28	1246.148	1254.47	1112.00423	1095.96223	1248.99921	1044.99337	1176.20791
Film grafted	1278582	746.251448	746.251448	746.251448	746.251448	746.251448	746.251448	746.251448	746.251448	746.251448	746.251448
Film ensacado	1278461	1139.17428	746.342428	751.844793	681.231267	521.721775	715.0330281	1115.58816	1093.87027	1131.56683	1131.56683
Film stretch	1278894	1242.375	1443.445	1443.5	1355	1098	576.3618	27.1475	18.7655	33.8905	29.9105
Caja Kraft	1768940	1242.47528	270.48655	270.48655	305.812345	305.23857	458.452356	305.458486	305.50424	295.79524	295.79524
Film SE	1275455	455.12230	490.82982	489.75581	490.040206	411.538878	385.779957	413.317086	444.174728	456.460282	456.460282
Film PH	1278461	296.375	284.875	339.06	384.32	441.1875	453.103182	459.231277	510.111572	500.088453	500.088453
Film PH	1278519	180.040449	204.24991	342.00231	342.00231	342.00231	342.00231	342.00231	342.00231	342.00231	342.00231
Film PH	1278215	302.504675	302.504675	302.504675	302.504675	302.504675	302.504675	302.504675	302.504675	302.504675	302.504675
Film PH	1278216	489.731805	411.58920	347.122256	367.688257	347.022775	474.512527	606.487886	636.595728	1036.41817	1036.41817
Film PH	127458	105.02895	655.476212	764.87257	765.503737	764.802252	812.034966	815.114687	814.54053	506.106762	506.106762
Film PH	1278461	127.7147	305.449314	305.449314	305.224233	283.271778	278.29574	344.030729	344.030729	344.030729	344.030729
Film PH	1278209	269.802356	342.77054	328.54861	302.528062	279.920318	270.689721	278.227432	344.434284	425.940476	425.940476
Funda SE	1278940	1893.00759	13411.9998	13997.9989	10944.61179	1034.27347	6390.14139	5547.01032	5062.118131	4645.25108	4645.25108

\*Colocar órdenes que permitan a los inventarios alcanzar por lo menos 26 días  $Q = \max \left( \sqrt{\frac{2SD}{i \times C}} \cdot (26/30) \cdot D_t - Stock_t + D_t \right)$  para cumplir con el requerimiento crítico.

### 4. Diseño de Plantilla para Planificación del Abastecimiento de Materias Primas Locales Críticas

Fecha de Actualización: 23/1/2022 16:56														
Actualizar Ingresos														
Almacén	Categoría	Materia P	Texto breve de material P	UDM	Proveedor	Punto de Recorte	Stock de Inicio del Mes	Consumo del Mes	Stock Final	Compras	Ingresos	DOH	Notas	Valor de Existencia Final
031	Film grafted	1278461	FILM PE COBERTA BARIUM ULTRA 120	KG	Pastapaper Nacional	946	0	956	2.685	0	2.140	149		516.746
035	Rodeta tubete	1188595	RODELA TUBETE 1480R CAFE	KG	Pastapaper Nacional	15.038	0	24.496	0	0	2.406	0		112.938
035	Funda tubo	1768926	FUNDA BARIUM ULTRACRISTAL 120	UN	Pastapaper Nacional	188.306	139.835	0	139.920	140.709	0	0	Ondulad	77.776
035	Funda IF	1768968	FUNDA TALLA IF FILM PRO-BLANCO CHISOL	UN	Pastapaper	133.231	78.028	35.237	234.851	0	186.020	180		520.673
030	Film PH	1278467	FILM PH ULTRACRISTAL 120R 120	KG	Pastapaper	1.827	2.847	1.390	1.741	0	185	0		112.938
030	Film stretch	1278894	FILM STRETCH PALESTRA 120	KG	Pastapaper	1.004	231	0	1.888	0	1.888	0		53.771
030	Film ensacado	1278865	FILM ENS. ALUMIN. 1620MM-120	KG	Pastapaper	1.276	2.051	0	3.048	0	3.048	0		112.938
030	Funda PA	1768955	FUNDA BARIUM ULTRACRISTAL 120	UN	Pastapaper	139.103	28	0	120.028	0	120.028	0		514.654
030	Funda SE	1278940	FUNDA BARIUM ULTRACRISTAL 120	UN	Mitsubishi	11.480	16.723	7.472	28.981	0	19.509	113		57.643
030	Film SE	1278998	FILM SE M. COMBUSTION COCOTEL 120	KG	Nagler	115	343	133	209	0	47	0		51.427
030	Espeque	1429747	ESPEQUE BARIUM ULTRACRISTAL 120	KG	Corpas	60.507	683.168	0	711.168	0	48.000	0		51.4842
030	Funda tubo	1768941	FUNDA BARIUM ULTRACRISTAL 120	UN	Pastapaper	25.802	49.972	0	94.972	0	49.000	0		57.7854
030	Rodeta tubete	1188576	RODELA TUBETE 1480R CAFE	KG	Pastapaper Nacional	9.860	16.902	14.241	22.079	0	9.413	0		51.4842
030	Film grafted	1278461	FILM PE COBERTA BARIUM ULTRA 120	KG	Pastapaper	1.276	2.051	0	3.048	0	0	72		51.4842
030	Film PH	1278461	FILM PH ULTRACRISTAL 120R 120	KG	Pastapaper	1.827	2.847	1.390	1.741	0	185	0	Ondulad	51.4842
030	Funda tubo	1768941	FUNDA BARIUM ULTRACRISTAL 120	UN	Pastapaper	139.103	28	0	120.028	0	120.028	0		51.4842
030	Funda PA	1768955	FUNDA BARIUM ULTRACRISTAL 120	UN	Pastapaper	139.103	28	0	120.028	0	120.028	0		51.4842
030	Funda SE	1278940	FUNDA BARIUM ULTRACRISTAL 120	UN	Mitsubishi	11.480	15.733	7.472	28.981	0	19.509	0		51.4842
030	Film SE	1278998	FILM SE M. COMBUSTION COCOTEL 120	KG	Nagler	115	343	133	209	0	47	0		51.4842
030	Rodeta tubete	1188576	RODELA TUBETE 1480R CAFE	KG	Pastapaper Nacional	9.860	16.902	14.241	22.079	0	9.413	0		51.4842
030	Film grafted	1278461	FILM PE COBERTA BARIUM ULTRA 120	KG	Pastapaper	1.276	2.051	0	3.048	0	0	60		51.4842
030	Film PH	1278461	FILM PH ULTRACRISTAL 120R 120	KG	Pastapaper	1.827	2.847	1.390	1.741	0	185	0		51.4842
030	Film stretch	1278894	FILM STRETCH PALESTRA 120	KG	Pastapaper	1.004	231	0	1.888	0	1.888	0		51.4842
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