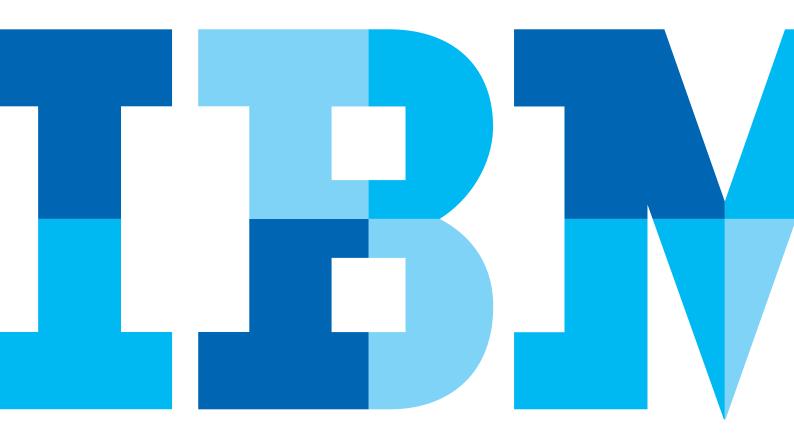
Demand Planning Performance Blueprint



IBM

This application brief demonstrates the *IBM Cognos Demand Planning Performance Blueprint*, which consists of best practices for managing product and customer demand planning using IBM Cognos[®] TM1 and IBM Cognos 8 BI. Implementing this *Blueprint* enables users to see the possible impact of product decisions at both customer and product levels.

Overview

The Demand Planning Blueprint was developed as one TM1 server, so that customer managers can plan at the individual customer and product SKU level and product demand planners can plan total demand at the product SKU level using data from the customer plan. The model also allows for the inclusion of a statistical and financial forecast. These forecast versions are brought together to drive a consensus demand plan; the results of which could be used to drive the demand side of a Sales and Operations Planning (S&OP) process. For example, a customer manager can plan very dimensionally rich customer demand, with product unit volume input by customer ship-to location and distribution ship-from location that will immediately determine gross revenue and cost of sales. There is a placeholder for any customer supplied forecasts from which customer managers can use to affect their own forecasts. The model provides the flexibility to allow the customer planner to determine the unit price charged to a customer but potentially not the unit cost. A product planner can plan total demand for each ship from location for all customers, using data from the customer plan, their own forecasts to help derive a consensus plan. They can input the average unit price and unit cost to drive total gross revenue and cost of sales. (Note that unit price and unit cost may be generated by future Blueprints).

Blueprint objectives

The *Demand Planning Blueprint* achieves the following planning objectives:

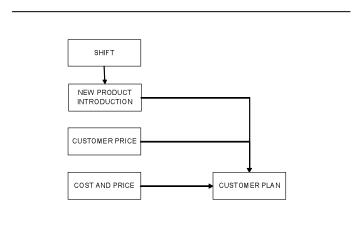
- · Manage product demand by customer and product.
- Manage product demand by product.
- Derive a consensus.

Representative workflow: Customer demand planning

The customer demand planning interface (based on the Cognos TM1 Demand Planning server) is what customer managers can use as they forecast product demand for their customers. This section of the Application Brief describes the basic workflow for selecting and inputting unit volumes by customers and products.

Flowchart

This flowchart shows the components used from the Demand Planning TM1 server to create the Customer Demand Planning Contributor application. The TM1 cubes, shift and cost and price while used by the Contributor application are not part of the user view.



New Product Introduction

Customer managers can see what new products are being introduced, the planned launch date and whether this date has been brought forward or delayed. Changes to the launch date automatically adjust the original plan to the new date. They can also see if the new product replaces an existing product. Customer managers cannot enter data into this cube.

Product -	Column		ut Introduction 🔶		Context: [10587 [Product Group]
	Planned Introduction	Shift	New Introduction	Replaced Product	
10587-10129-00					
19200-00262-04					
26600-80900-00					
27443-38210-00					
36241-04905-06					
39977-00158-00					
41500-00053-14					

Customer Price

Using the Customer Price tab, a customer manager can input unit price by product and by customer. Prices are input by year and are used to generate gross revenue in the Customer Plan cube.

Product - [Deeduct]		Columns: Measure [Measure]	Context: Cust01 [Customer]	Actual [Vention]	V01 [Year] -
P	Price				
10587-14121-00	100.69				
10587-14115-00	89,94				
10587-14114-00	79.25				
10587-14329-00	87.09				
10587-14428-00	76.68				
10587-14527-00	80.13				
10587-14916-00	126.16				
10587-15128-00	77.92				
10507-16125-00	105.36				
10507-10129-00	104.29				
19200-00027-06	104.02				
19200-00051-04	92.92				
19200-00000-15	81.87				

Customer Plan

Using the Customer Plan cube, customer managers can input units by product to generate gross revenue and cost of sales. Cost of sales is based on the unit cost input by product managers in the Product Demand Planning interface.

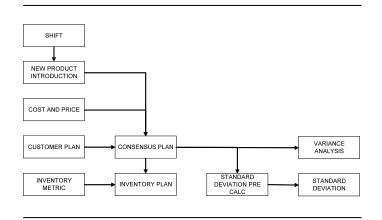
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		1000 C - 2014	Week(2) - 2008	Visal(0) - 2908	Hask24 - 2000	ii: Jan- 2006	Wwei(% - 2006	Wash06- 2008
	Grad Revenue	159398.00	101829.00	141267.00	110721-09	\$\$1475.00	125642.00	100105-09
2400	Cost of Take	55425.00	44142.00	58566.00	50138.00	230034.00	722-(8.30	35496.00
Adust	Cultomer Adjustment	\$592.08	1125.00	1506.03	1535.00	1059.00	18-18.30	1002.86
	Field Polected	8583.00	1051.00	1464.00	1139.00	5477.00	1744.00	1055.00
	Grais Revenue	77983.88	47566.00	64234.00	55014.00	258494.00	24141.00	10211-00
-	Cog of Sale	28542.08	18728.00	25125.00	2575589	9979426	31241.00	37741.00
Fernant	Externer Adjustment	1353.08	475.00	648.03	1/57.00	3143400	864.00	18.1.88
	Heldmorecast	531.00	431.00	605.00	624.08	2375406	156,00	015.80
	CESSI Revenue	17745588	11/72/2.00	157547.00	150517.00	\$12554.0E	194828.00	201033.00
and an end of the local sectors of the	Log of Sale	54755.00	48139.00	61222.00	1/1013-008	24837500	28448.00	5/05/.00
Original Plan	Colorier Adlantment	1333.00	1213.00	1628.00	1005.08	63395.00	2817,00	2158.80
	Peld Porecad	1735.00	1146.00	15+1.00	1573.00	6993.00	1908.00	2056.00

Representative workflow: Product demand planning

The Product Demand Planning interface (based on the Cognos TM1 Demand Planning server) can be used by product managers as they forecast product demand for their product groups. This section of the Application Brief describes the basic workflow for selecting and inputting unit volumes by product.

Flowchart

This flowchart shows the components used from the Demand Planning TM1 server to create the Product Demand Planning interface. The TM1 cubes, shift, customer plan and standard deviation pre calc are not included in the user view.



Inventory Metric

With this cube, product managers can input inventory metrics by month.

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	3an - 2000	Feb - 2008	Mar - 2008	iii Qir01 - 2906	Apr - 2501	May - 2008	λg - 2000	iii Qt/02 2008	3,4 -	Aug - 2008
Weaks of Supply	800.00	860.30	888.00	25-10.80	890.09	880.00	888.00	2540.00	880.06	960.99
Canying Cost	220.00	220.30	228.00	660.80	2210.00	229.00	228.80	\$60.00	220.00	720.00

New Product Introduction

Product managers can see what new products are being introduced, the planned launch date and whether this date has been brought forward or delayed. Changes to the launch date automatically adjusts the original plan to the new date. They can also see if the new product replaces an existing product. Product managers can enter data into this cube.

Product -	Column		uct Introduction		Context; [10587 [Predact Group]
5	Hanned Introduction	shit	New Introduction	Replaced Product	
10587-10129-00					
19200-00262-04	12 A				
26600-00900-00					
27443-38210-00					
36241-04905-06					
39977-00150-00					
41500-00053-14					

Cost and Price

Product managers input cost and price for each product using this cube. This generates gross revenue and cost of sales in the consensus plan cube. Unit cost from this cube is used to generate cost of sales in the Customer Plan cube.

Product -	ľ	Man		Meas	• au			Corte	it: 10587 roduct Ges	- [qu	E 101 [Locat	-	Actua		
	Jan - J	8000	Feb - 2	000	Mar + 2	2000	Apr + 2	000	May + 2	008	Jun - 21	800	34+20	00	
1	Price	Cost	Price	Cost	Price	Cost	Frice	Cost	Price	Cost	Price	Cost	Price (Cost	3
10587-14121-00	102.93	42.00	102.93	42.00	102.93	42.00	102.93	42.00	102.93	42.00	102.93	42.00	102.93	42.0	50
10587-14115-00	96.32	39.42	96.32	39.42	96.32	39.42	96.32	39.42	96.32	39.42	96.32	39.42	96.32	39.	12
10587-14114-00	80.64	37.95	80.84	37.95	80.84	37.95	80.84	37.95	80.84	37.95	80.84	37.95	80.84	37.	35
10587-14329-00	100.10	38.53	100.10	38.53	100.10	38.53	100.10	38.99	100.10	38.99	100.10	38.99	100.10	38.	'n
10587-14428-00	75.55	36.99	75.55	36.99	75.55	36.99	75.55	36.99	75.55	36.99	75.55	36.99	75.55	36.	ýø
10587-14527-00	79,70	39.69	79.70	39.69	79.70	39.69	79.70	39.69	79.70	26.33	79.70	26.33	79.70	26.	in
10587-14916-00	116.53	36.99	116.53	36.99	116.53	36.99	116.53	36.99	116.53	36.99	116.53	36.99	116.53	36.	99
10587-15128-00	83,10	39.77	83.10	39.77	83.10	39.77	63,10	39.77	83.10	39,77	83.10	39.77	00.61	39.	17
10587-16125-00	98.19	36.37	98.19	36.37	98.19	36.37	108.99	36.37	108.99	36.37	108.99	36.37	108.99	36.	37

Consensus Plan

Using the Consensus Plan cube, product managers input units by product, compare their forecast against the field forecast and come to a consensus forecast.

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		West (1) - 2007	WastCZ - 2508	Want21- 200	Padda- 200	10.3an- 2009	seektti - 2000	tereskitt, - 2009	Namil? - 2018
	Units	24/92	2,434	3,275	3.3 00	12/218	6,031	4,363	2,47
	Gentformer	370,042	244,470	308.407	301.755	1,275,402	485,079	06212	240,76
NELI	Cost of Soles	115,044	118,229	117.500	1+8.196	534,996	170,142	883,245	101,50
	Georfferan	215,379	142,250	118,925	111.559	3+3,405	235,736	252,964	144,05
	Unto	4,843	2,627	3,301	3.459	14,316	4,725	4,162	2,54
	Gentlemat	\$40,310	275,725	312.376	355,798	1.491.605	435,618	474,087	000,01
Forecast	Cost of Soles	298,840	100,592	129,355	142.607	552,704	174,000	100,031	120,25
	George Physics	346,879	106,827	213,071	257.100	098,001	253,010	285,655	100,75
	Unto	3,355	2,490	3,329	3,308	12,947	4,095	6,484	2,49
	Gentlemat	375,642	252,790	306,005	341.453	1,305,010	411,702	443,794	254,74
Crignal Film	Cost of Soles	136471	19,780	133,054	135,537	\$15,055	164,163	175,000	90,64
	Gent Plarge	225,014	110,015	213,071	205.916	76.83	247,539	261,093	156,09

Inventory Plan

This cube enables product managers to input internal production and outsourced production and to view ending inventory.

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	WINDL - 2MID	week12- 2006	wpei05 - 2006	weekton - 2008	⊖ 3an - 2008	weekus - 2508	Werkus - 2508
Degroung Inventory	204,555	372,404	258, 195	317,939	254,555	313,145	279,694
Open Purchase Recepto					8		
Planned Purchase Recepts			0		0		0
B Total Purchase Receipts			0		0		0
Scheduled Preduction Receipts	74,671	45,662	124,076	61,347	313,136	30,814	61,601
Forecested Production Recepts			0	0	0		0
Total Production Receipts	24,825	93,862	120,076	\$1,347	313,136	30,014	61,603
🖯 Total Supply	74,671	61,662	\$26,076	61,347	313,135	30,814	61,500
Conservaux Forecast	66,142	63,951	68,332	66,143	264,568	64,263	65,129
= Ending Inventory	272,494	258,195	217,939	313,140	313,140	279,694	236,259
Targeted Ending Investory	264,568	252,609	253,056	259,715	259,715	257,906	253,445
Calculated Weeks of Supply	906.33	688.25	1,023,63	1,041.95	1,141.57	857.51	933.38
Calculated Turnover	0.25	0.24	0.24	0.21	3.82	8.32	0.23
Turning Target					0		. 0

Standard Deviation

This cube shows product manager the volatility of the actual demand for the products they are forecasting.

Rowt: Product - [Product]	Cal	Standa [Standa	nd Deviation 🚽	Context: 10567 Product Group
0	Standard Deviation	Mean	CV	
10587-14121-00	400	3761	0.11	
10507-14329-00	1045	7078	0.15	
10587-14428-00	930	7455	0.12	
10587-14527-00	1022	7446	0.14	
10587-14916-00	1004	7446	0.13	
10587-15128-00	1015	2450	0.14	
10587-16125-00	838	7253	0.12	12
10587-18129-00	1054	7165	0.15	

Variance Analysis

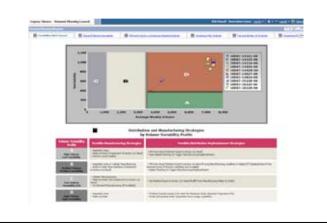
This cube shows product managers various variances between actual, forecast and original plan.

	3 -	Product Days	· 602.	• (A SH	· (Anderst	ancet • (p	Congrad	
	10144512 - 17500	aleekt 2 - 2000	2001	NAMEDI -	- 3a - 200	Median -	Weekles - Z238	WANDED -
Sales Price Variance	6,000.111	5,243.388	6,00,047	5,817,265	23,999,329	6.288,685	8,004,795	1,294,217
Sees Tokare Tenance	(6.5-5.530)	(8.242,793)	(6,679,822)	16,719,2503	08.007.440	0.294.8320	0.376.303	(6.195,170
CINE INTO NAMENCE	0.994,200	0,445,176	01,626,120	DOM:MO	10,100,240	62,478,8940	00,509,7210	(2,448,316)
Cost Volume Variance	2,732,610	2,622,937	2,790,362	2,710,014	10,479,013	2,411,695	2,645,388	2,640,893
Net Volume Variance	(3.032,329)	01.620,863	(3,000,478)	(1,796,254)	05,123,427)	0.400.020	0.711,000	Q.451,200
Soles Phi Valuence	(3.573,930)	0.+0.000	(3,605,245)	0.505.412	0528.900	0.461,2000	0.525,2793	(0,+53,300
Ner Volume Verseco Liberts	(3,812,5070	(0,475,868)	(3,89,478)	(1,78,214)	125,125,427)	0,431,40.0	(0,411,300)	(0.654,200
Final Sales Poliane Variance	(241,160)	(204,123)	GR00,22%	(200,654)	(116.464)	072,700	D#6,3420	(200,736
Recepituácion of Variances								
Change Due to Sales Frikes	5,901,113	5,743.305	6.210.047	5,917,365	23,101,329	5.755,000	5.904,795	1,294,22
Change Dive to Cold	(2.524,250)	02,485,2759	(1,688,122)	0,945,962	00,191,290	62,479,8940	0.599,725	62.466,555
Change Due to Product Her	(3,575,660)	(3,445,483)	(0,665,245)	0.06412	(14,24, 161)	(0,441,200)	(0,525,375)	(0.463,588
Change Due to Units SvM	1241,1600	(214,110)	000,225	(220,454)	006.44-0	0.72,710	0.06,5039	1200,705
Change Due to Volume			e	0	a			
her Change In Gross Harge.	1306,3005	(342,755)	(307,545)	(052,045)	(1,405,245)	(354,3375)	016,235	1206,029
hat Charge in Gross Harge Check	(106,307)	1142,753	2007,6451	052,045	0,8003403	054,9275	0114,2003	1709,229

Business Intelligence Model

The Demand Planning Dashboard presents critical information to executives at a glance so they can quickly drive and devise resolutions for improving demand planning efficiency. The Demand Planning Dashboard was designed using a tabular approach to represent, highlight and group respective areas of analysis for easy navigation and visibility. These tabs present pertinent trending statistics and data to be used for better management of the demand planning process. The Dashboard also contains a tab which nests the Consumer Plan cube to provide the functionality for viewing/modifying the plan and forecast without having to leave the Dashboard. In this section, we have included screen captures and descriptions of a few of the invaluable reports and analysis that you can use and modify to fit your objectives and goals.

The Demand Planning Dashboard by default opens to the Variability ABCD Report. The Variability ABCD Report uses dots to indicate how a particular SKU falls in terms of its combined volume and variability.



The Demand Planning Navigation tab provides a list of key reports, highlighted in red, along with search capabilities. When a report is selected, the Demand Planning Navigation tab displays the results in the nested Report Viewer Pane.

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	-21	Land Day to Generate Arcents sold	225,76	16.15	10.82	
en vet 1935 en landst		Land Due to Generate actively hold Total	2175.14	SA 12 A	10.54(8)	
	ia .	Land That to Diversion & South Sold Tour Land				

The Top and Bottom 10 show the highest and lowest unit volumes and drive a review based on negative or positive trends over time.

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, advanced analytics, financial performance and strategy management and analytic applications gives you clear, immediate and actionable insights into current performance and the ability to predict future outcomes.

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Differences		80140	19.18	\$15.94	2.800	\$12.00	\$2.19		2,195	10047	\$9.55	81,146		BRANCE.	94.02	88.24
140,000,047		125.78	10,27	17,101	4,602	\$71,84	405,07	140,452	2,443	401.08	10.304	0.0429		\$75.08	10.08	87,40
2010/01/07	2444	108.34	15,21	10420	4.000	675.29	10219	104.74	2112	211,08	81,01	85.77	10000	\$3.74	\$6.10	\$1.00
04444	1.04	48*LAG	25,461	81.04	4.000	407,014	ton-are	10.04	8110	84,46	199,903	\$14,221	3.64	(84.85)	\$1.40	44,00
574 4000 11	1.00	416,75	411,48	196.74	346	18.17	91,79	11/10	3,874	10.00	61.27	611126	100.00	NUM	91.07	81.94
106.0621.07	210	106.00	80,72	83.25	428	94523	The state	04.10	248	85.72	10.49	28442		\$2410	81.04	120,418
COM. AND LAS	2110	60,00	45,40	84.53	1.64	81.55	43.10	41.10	2,000	41.05	10.45	10,00		611.707	95.70	11.05
104 1632 47	200	\$28,70	120,04	\$47,36	410	\$11,84	\$19,15	PACE.	219	88647	80.81	676.281	10000	\$85,91	\$1.104	94,81
100.00717.14	1.0	15.00	10,44	1829	4,000	191412	10728	100.98	2,894	10,15	10.71	100,007	1.144	825,917	94.20	10,81
LOW ARD AL	2445	40136	41.61	100.00	1.00	\$13.04	\$1.88	\$14,94	1.041	10.11	. Jac. 315	661421	2,000	861,741	64.11	\$1.07
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