Analysis of the Feasibility of the Colaborative Stock Management Between a Southern Santa Catarina Ceramic and A Retailer of Construction Materials Company

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ABSTRACT: *Over the years the relationship between customer and supplier has undergone some changes that have made both see the need to strengthen the relationship to facilitate negotiations and achieve goals. The main objective of this study is to evaluate the feasibility of establishing a collaborative relationship between a ceramic tile industry and a retailer in the construction materials sector. For this, the client made available a series of information that allowed the industry to track the sales and inventory of each customer's product, becoming responsible for the supply of items and ensuring that the inventory is always healthy, without over stock and without rupture. The results were monitored by a weekly Dashboard. After 8 months of project implementation, it was possible to achieve the customer's goal of rupture, being only 2 days above ideal coverage, with an increase of approximately 9,000 m² in customer sales in the last half of 2017 compared to the first, which still did not have the collaborative. This study proves that it is feasible and positive for both involved to implement this new form of relationship, and can be applied to the other clients in the industry.*
KEYWORDS -*Sales, Break, Coverage, Dashboard.*

I. INTRODUCTION

The collaborative planning proposed in this study sought to demonstrate a new form of inventory management for the client, which in this case is one of the largest companies in Brazil in the retail sector for construction and renovation products, which proposed goals for a ceramic coating plate industry of the southern region of Santa Catarina. With this, he became responsible for the inventory of his product in the customer's warehouse. This allowed the supplier to be more participatory in this customer and supplier relationship, making it easier for some negotiations, such as price and promotion issues.

In order to evaluate the feasibility of the project, indicators, control tools and results monitoring were created. After the studies, it was analyzed the best way to carry out these controls, and to evaluate which control fits the profile of the companies involved and the parameters that were stipulated.

The purpose of this study was to achieve the goals stipulated by the client (such as coverage and rupture) and increase the sales of the companies involved.

II. METHODOLOGICAL PROCEDURES

For the preparation of the project was used as a main tool the Excel, where formulas were used to facilitate the work and the simulation of various scenarios in order to assist in the choice that best fits the current panorama of companies.

Initially it was necessary that the client make available several detailed information about your business. As this is a collaborative project between a ceramic-coated plates industry and a company of the retail sector of products for construction and reform, the client provided a weekly report with the following data: sales from the beginning of the month until the day that the report is sent, sales take effect in previous months and updated inventory of each product in the portfolio. Was an elaborate spreadsheet that would gather all data provided weekly reports to facilitate analysis.

For this project we used the ABC curve method applied differently, to adapt the company from which it was deployed. Whereas the focus of the client are sales, was not considered the value that each item represents in stock and the value of the average of the past three months closed sales from the current month, which is the parameter used to determine the curve of each item.

The client together with the ceramic coating plates stipulated the product group which was part of every curve, taking into account the production lead time . With the curves defined, other goals were established, the goal of stock coverage, break (have less than a day of sale in stock) and actual sales. Initially considered the following goals for each curve:

Curve A: 45 days of stock and 3%.

Curve B: 60 days of stock and 5% breakage.

Curve C curve: 90 days of stock and 6%.

Total: 60 days of stock and 4%.

After updating the file, was also appointed what was being delivered to the customer, as for example, orders in transit or that have already been billed, but which had not yet entered in stock. This action ensured that they were not carried out deliveries in duplicity.

The quantity delivered the customer needed to be well analysed, because if there was about a stock item, the responsibility was of the ceramic coating plates, which would have to propose solutions to reduce inventory. After a few tries of the commercial sector without reducing coverage, the industry would have to bear the cost of returning the material.

In parallel to inventory management, some routines have been made to ensure that the flow to occur properly. The customer's request, for example, needed to be correct. As the customer has bought the company's products before deploying the collaborative, the same has already deployed applications for stock replenishment. To generate these requests the buyer issued purchase orders and commercial sector had recorded the same ceramics in the system of the company along with the date that the customer expect to receive the product, it allowed the CFP could see the need, set the production and meet the request.

In the case of collaborative this flow has changed, you had to have in a portfolio company equivalent to two months ' supply of each product, this allowed the CFP was more assertive in time to perform the programming of the following month and trying to ensure that the product was available to meet the need of the client in the right moment, since the requests were met, not risking so run out of stock.

In order to start this case study, it was necessary to conduct a literature search on topics related to ceramic tile industry and inventory management. After the references as the basis of what has been proposed to the client, it required a quantitative data collection, which served for initiation of collaborative creation of the Dashboard. In order to check and track customer satisfaction, we conduct a survey, carried out qualitative weekly calls to the client for the possible failures of the alignment process.

Initially, was presented to the client a proposal for implementation of collaborative, where he agreed to provide some information for the ceramic flooring boards can analyze the data and to supply the stock of them as needed and the goals that put together.

After both parties accept to start the project, the customer (retailer of building materials sector) needed to adjust the report issued by the client to submit the following information:

· Inventory by item;

· Partial sale of current month per item;

· Client code of the item;

· Closed sale of the previous months.

These changes were made by the computer industry and it took about two weeks for the report in question was approved by them and by the supplier (ceramic coating plates industry of southern Santa Catarina).

A spreadsheet of Excel to store the information passed by the client. The file contained: the ceramic product code, product description (name and form), bend the item belonged, if he did or not part of the current customer portfolio, and corresponding coverage target the item, calculation of average daily consumption (average of the the last three months of the sale divided by 30), current item coverage (stock divided by the average daily consumption), if there is material in transit that item (billed product that I haven't checked in

stock), and a column designing item coverage in 15 days considering the sum of the current stock, material and quantity suggested to supply.

When all relevant data and information have been placed in the file, the collaborative, parsed as described in the methodology of this article. The first suggestion of supply was sent 15 days after the receipt of the first report of the client, i.e. the first suggestion was made with the second report received.

A month after the beginning of a collaborative tool to monitor the development of the project, the Dashboard, sent weekly to the client and involved in the process of ceramics.

III.   RESULTS

The collaborative was started in the first week of May 2017, where the first suggestion of supply was made. In the last week of the month the first Dashboard was sent to the client showing the current situation, as shown in Table 1.

Table 1 - Dashboard May 2017

BREAK (%)					FOR SALE (m²)						ROOF (days)				
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	**3,0%**	**5,0%**	**6,0%**	**4,0%**							**Goal**	**45**	**60**	**90**	**60**
Jan	7,1%	24,2%	9,0%	12,0%	**Jan**	20.562	10.226	10.363	5.930	47.081	**Jan**	45	62	137	67
Feb	21,4%	24,2%	8,1%	12,7%	**Feb**	25.703	7.939	8.576	3.904	46.123	**Feb**	22	45	110	42
Mar	7,1%	27,3%	14,4%	16,2%	**Mar**	25.177	9.413	10.550	3.448	48.588	**Mar**	15	27	85	31
Apr	16,7%	15,4%	6,1%	8,5%	**Apr**	25.800	12.087	10.072	3.893	51.851	**Apr**	24	31	86	39
S1 **03/may**	16,7%	15,4%	6,1%	8,5%	**03/may**	-	-	-	-	-	**03/may**	24	31	86	39
S2 **10/may**	8,0%	26,0%	4,0%	10,0%	**10/may**	5.514	3.721	2.461	1.111	12.806	**10/may**	30	34	85	43
S3 **16/may**	17,0%	19,0%	5,0%	9,0%	**16/may**	11.075	7.684	5.897	2.777	27.433	**16/may**	31	34	78	43
S4 **24/may**	0,0%	26,9%	6,3%	9,3%	**24/may**	16.801	11.718	9.002	4.021	41.542	**24/may**	29	27	74	39
S5 **31/may**	0,0%	15,4%	8,0%	8,7%	**30/may**	24.479	14.666	11.546	4.657	55.348	**30/may**	30	38	80	43

Source: Authors (2017).

After the first analyzes it was possible to perceive the stock below the ideal, resulting in the increase of ruptures, and consequently, the loss of customers for not having some products at the prompt delivery. Considering that the factory takes about 20 days to deliver an order after the issuance of the purchase order, being that term for products with stock available in the factory. On the other hand, products without stock take an average of one month to be delivered to the distribution center of the retail company; Due to this deadline many customers gave up the purchase.

At the end of the second month after implantation, there was an improvement in the indicators, but nothing very relevant, as shown in Table 2.

Table 2 – Dashboard June 2017

BREAK (%)					FOR SALE (m²)						ROOF (days)				
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	**3,0%**	**5,0%**	**6,0%**	**4,0%**							**Goal**	**45**	**60**	**90**	**60**
Jan	7,1%	24,2%	9,0%	12,0%	**Jan**	20.562	10.226	10.363	5.930	47.081	**Jan**	45	62	137	67
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Apr	16,7%	15,4%	6,1%	8,5%	**Apr**	25.800	12.087	10.072	3.893	51.851	**Apr**	24	31	86	39
May	8,3%	20,5%	5,9%	9,1%	**May**	26.653	16.216	12.418	4.979	60.266	**May**	29	33	81	41
S1 **06/june**	0,0%	8,0%	8,0%	7,0%	**06/june**	4.421	3.064	1.645	911	10.041	**06/june**	33	34	88	45
S2 **13/june**	0,0%	8,0%	3,0%	3,0%	**13/june**	9.190	5.795	3.754	1.550	20.289	**13/june**	38	42	95	51
S3 **20/june**	0,0%	8,0%	6,0%	5,0%	**20/june**	18.699	10.335	6.055	2.114	37.203	**20/june**	39	50	94	53
S4 **27/june**	8,0%	8,0%	8,0%	8,0%	**27/june**	21.705	13.188	8.484	2.578	45.955	**27/june**	44	59	95	59

Projection	24.116	14.654	9.427	2.864	51.061

Source: Authors (2017).

Breakouts still remained well above target, and sales have maintained average performance in recent months, but stock coverage has come closer to the ideal.

At the end of July, as can be seen in Table 3, there was again an increase in ruptures, caused by above-average sales. Sales projections for the last week of the month were 16,000 square meters higher than in June. Although inventory coverage was even more balanced and close to ideal, some items had prices changed due to a trade agreement, and their sales surpassed the predicted demand based on the history and account executive.

Table 3 – Dashboard July 2017

	BREAK (%)				FOR SALE (m²)					ROOF (days)			
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	**3,0%**	**5,0%**	**6,0%**	**4,0%**							**Goal**	**45**	**60**	**90**	**60**
Jan	7,1%	24,2%	9,0%	12,0%	**Jan**	20.562	10.226	10.363	5.930	47.081	**Jan**	45	62	137	67
Feb	21,4%	24,2%	8,1%	12,7%	**Feb**	25.703	7.939	8.576	3.904	46.123	**Feb**	22	45	110	42
Mar	7,1%	27,3%	14,4%	16,2%	**Mar**	25.177	9.413	10.550	3.448	48.588	**Mar**	15	27	85	31
Apr	16,7%	15,4%	6,1%	8,5%	**Apr**	25.800	12.087	10.072	3.893	51.851	**Apr**	24	31	86	39
May	8,3%	20,5%	5,9%	9,1%	**May**	26.653	16.216	12.418	4.979	60.266	**May**	29	33	81	41
June	2,0%	8,0%	6,3%	5,8%	**June**	24.488	15.607	10.454	3.285	53.834	**June**	39	46	93	52
S1 **06/july**	0,0%	7,7%	6,5%	6,2%	**06/july**	5.069	2.449	2.092	258	9.867	**06/july**	44	60	87	58
S2 **14/july**	13,0%	6,0%	7,0%	7,0%	**14/july**	13.811	12.345	3.213	624	29.993	**14/july**	36	67	97	57
S4 **25/july**	13,0%	5,0%	11,0%	8,0%	**25/july**	24.989	25.032	7.236	1.275	58.531	**25/july**	38	66	74	55
Average	8,7%	6,2%	8,2%	7,1%	**Projection**	29.987	30.039	8.683	1.529	70.237					

Source: Authors (2017).

In August, it was possible to reduce the amount of rupture by maintaining the average sales of the last months, but by storing some items of curve B, as shown in Table 4.

Table 4 – Dashboard Aug 2017

	BREAK (%)				FOR SALE (m²)					ROOF (days)			
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	**3,0%**	**5,0%**	**6,0%**	**4,0%**							**Goal**	**45**	**60**	**90**	**60**
Jan	7,1%	24,2%	9,0%	12,0%	**Jan**	20.562	10.226	10.363	5.930	47.081	**Jan**	45	62	137	67
Feb	21,4%	24,2%	8,1%	12,7%	**Feb**	25.703	7.939	8.576	3.904	46.123	**Feb**	22	45	110	42
Mar	7,1%	27,3%	14,4%	16,2%	**Mar**	25.177	9.413	10.550	3.448	48.588	**Mar**	15	27	85	31
Apr	16,7%	15,4%	6,1%	8,5%	**Apr**	25.800	12.087	10.072	3.893	51.851	**Apr**	24	31	86	39
May	8,3%	20,5%	5,9%	9,1%	**May**	26.653	16.216	12.418	4.979	60.266	**May**	29	33	81	41
June	2,0%	8,0%	6,3%	5,8%	**June**	24.488	15.607	10.454	3.285	53.834	**June**	39	46	93	52
July	8,7%	6,2%	8,2%	7,1%	**July**	30.048	30.824	8.220	2.169	71.261	**July**	40	64	86	57
S1 **02/aug**	12,5%	3,1%	12,8%	8,7%	**02/aug**					-	**02/aug**	39	63	64	53
S **09/aug**	0,0%	1,6%	2,7%	2,0%	**09/aug**	5.999	6.589	1.909	514	15.01	**09/aug**	3	7	76	58

	BREAK					FOR SALE						ROOF			
2										1			9	0	
S3 15/aug	0,0%	3,1%	3,9%	3,4%	15/aug	11.594	13.290	4.583	918	30.386	15/aug	36	69	77	56
S4 22/aug	0,0%	4,7%	6,7%	5,4%	22/aug	16.407	19.807	7.098	1.317	44.629	22/aug	43	74	72	61
S5 29/aug	0,0%	6,3%	8,2%	7,1%	29/aug	21.007	25.432	9.199	1.785	57.423	29/aug	44	69	88	61
Average	2,5%	3,8%	6,9%	5,3%	Projection	24.219	29.239	10.478	1.945	65.880	Average	40	69	76	58

Source: Authors (2017).

In September, as shown in Table 5, the indicators changed little compared to the previous month, but when analyzing the curves separately the data changed due to the curves update performed by the customer, where he updated the average sales of the products and the altered to the curve more coherent with the effective rotation of the same.

Table 5 – Dashboard Sept 2017

	BREAK (%)				FOR SALE (m²)					ROOF (days)			
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	2,0%	4,0%	4,0%	4,0%							Goal	30	60	90	60
Jan	7,1%	24,2%	9,0%	12,0%	Jan	20.562	10.226	10.363	5.930	47.081	Jan	45	62	137	67
Feb	21,4%	24,2%	8,1%	12,7%	Feb	25.703	7.939	8.576	3.904	46.123	Feb	22	45	110	42
Mar	7,1%	27,3%	14,4%	16,2%	Mar	25.177	9.413	10.550	3.448	48.588	Mar	15	27	85	31
Apr	16,7%	15,4%	6,1%	8,5%	Apr	25.800	12.087	10.072	3.893	51.851	Apr	24	31	86	39
May	8,3%	20,5%	5,9%	9,1%	May	26.653	16.216	12.418	4.979	60.266	May	29	33	81	41
June	2,0%	8,0%	6,3%	5,8%	June	24.488	15.607	10.454	3.285	53.834	June	39	46	93	52
July	8,7%	6,2%	8,2%	7,1%	July	30.048	30.824	8.220	2.169	71.261	July	40	64	86	57
Aug	2,5%	3,8%	6,9%	5,3%	Aug	22.415	27.940	10.171	2.195	62.721	Aug	40	69	76	58
S1 05/sept	0,0%	4,7%	5,0%	5,2%	05/sept	4.622	4.203	1.375	143	10.343	05/sept	36	69	74	56
S2 12/sept	0,0%	4,7%	8,8%	6,9%	12/sept	6.991	8.768	4.111	341	20.211	12/sept	41	67	81	59
S3 19/sept	0,0%	4,3%	7,3%	5,2%	19/sept	22.975	6.756	6.409	730	36.869	19/sept	47	75	79	56
S4 26/sept	6,5%	4,3%	8,5%	7,0%	26/sept	31.586	8.058	8.709	1.179	49.533	26/sept	51	74	83	59
Average	1,6%	4,5%	7,4%	6,1%	Projection	37.904	9.670	10.451	1.415	59.440	Average	44	71	79	58

Source: Authors (2017).

      In October, there was a reduction in the ruptures again, but sales of some items were not happening as expected which resulted in the increase in total inventory coverage in the first weeks of the month, going from the ideal stipulated by the customer.

      Since the stock of our products in the customer is the responsibility of the ceramic tile industry, it was necessary the help of the commercial sector to elaborate some actions that would leverage the sales of these items on stock so that it would not generate a bigger problem in the future. As follows, it is possible to check in Table 6, the actions did work, and in the last week of the month we managed to let coverage was within the goal.

Table 6 – Dashboard Oct 2017

BREAK (%)					FOR SALE (m²)						ROOF (days)				
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	**2,0%**	**4,0%**	**4,0%**	**3,0%**							**Goal**	**30**	**60**	**90**	**60**
Jan	7,1%	24,2%	9,0%	12,0%	**Jan**	20.562	10.226	10.363	5.930	47.081	**Jan**	45	62	137	67
Feb	21,4%	24,2%	8,1%	12,7%	**Feb**	25.703	7.939	8.576	3.904	46.123	**Feb**	22	45	110	42
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Aug	2,5%	3,8%	6,9%	5,3%	**Aug**	22.415	27.940	10.171	2.195	62.721	**Aug**	40	69	76	58
Sept	1,6%	4,5%	7,4%	6,1%	**Sept**	36.762	9.594	9.893	1.273	57.523	**Sept**	44	71	79	58
S1 07/oct	0,0%	2,2%	7,2%	4,6%	**07/oct**	8.164	1.857	3.116	482	13.619	**07/oct**	59	80	105	70
S2 13/oct	0,0%	4,4%	5,3%	4,1%	**13/oct**	16.123	3.953	5.445	894	26.417	**13/oct**	61	81	97	71
S3 17/oct	0,0%	2,2%	5,3%	3,5%	**17/oct**	20.115	5.411	6.870	1.080	33.476	**17/oct**	58	77	93	67
S4 24/oct	0,0%	4,4%	6,1%	4,6%	**24/oct**	27.580	8.943	9.945	1.835	48.303	**24/oct**	53	67	85	61
S5 31/oct	3,3%	4,4%	4,0%	4,0%	**31/oct**	35.975	10.689	13.760	2.254	62.678	**31/oct**	50	67	86	59
Average	0,7%	3,5%	5,6%	4,2%	**Projection**	37.174	11.045	14.219	2.329	64.767	**Average**	56	74	93	66

Source: Authors (2017).

In November, as can be seen from the analysis of Table 7, it was possible to reach the goal of ruptures, which is considered the most important indicator by the client, since the excess of product can be quickly solved with a commercial action, such as by For example a promotion that reduces the price, the lack of the product can have a much greater impact for the company since the customer, most of the time, stops buying there to buy with the competition that has the item available the prompt delivery.

Table 7 – Dashboard Nov 2017

BREAK (%)					FOR SALE (m²)						ROOF (days)				
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	**2,0%**	**4,0%**	**4,0%**	**3,0%**							**Goal**	**30**	**60**	**90**	**52**
Jan	7,1%	24,2%	9,0%	12,0%	**Jan**	20.562	10.226	10.363	5.930	47.081	**Jan**	45	62	137	67
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July	8,7%	6,2%	8,2%	7,1%	**July**	30.04	30.82	8.220	2.16	71.26	**July**	4	6	86	57

	A	B	C	Total		A	B	C	F.L	Total		A	B	C	Total
						8	4		9	1		0	4		
Aug	2,5%	3,8%	6,9%	5,3%	**Aug**	22.415	27.940	10.171	2.195	62.721	**Aug**	40	69	76	58
Sept	1,6%	4,5%	7,4%	6,1%	**Sept**	36.762	9.594	9.893	1.273	57.523	**Sept**	44	71	79	58
Oct	0,7%	3,5%	5,6%	4,2%	**Oct**	37.512	11.229	14.144	2.293	65.178	**Oct**	56	74	93	66
S1 07/nov	3,3%	4,4%	2,0%	2,9%	**07/nov**	7.021	1.016	2.410	621	11.067	**07/nov**	49	74	86	61
S2 16/nov	0,0%	2,3%	0,0%	0,6%	**16/nov**	18.478	3.207	6.058	1.000	28.743	**16/nov**	43	75	88	58
S3 21/nov	3,2%	8,9%	0,0%	2,8%	**21/nov**	23.131	4.978	8.044	1.119	37.272	**21/nov**	40	72	88	55
S4 28/nov	0,0%	6,8%	1,0%	2,3%	**28/nov**	33.558	6.575	11.570	1.564	53.267	**28/nov**	42	79	89	62
Average	1,6%	5,6%	0,8%	2,2%	**Projection**	37.287	7.305	12.855	1.738	59.186	**Average**	43	75	87	59

Source: Authors (2017).

Table 8 – Dashboard Dez 2017

BREAK (%)					FOR SALE (m²)						ROOF (days)				
Curves	A	B	C	Total	Curves	A	B	C	F.L	Total	Curves	A	B	C	Total
Goal	2,0%	4,0%	4,0%	3,0%							**Goal**	30	60	90	52
Jan	7,1%	24,2%	9,0%	12,0%	**Jan**	20.562	10.226	10.363	5.930	47.081	**Jan**	45	62	137	67
Feb	21,4%	24,2%	8,1%	12,7%	**Feb**	25.703	7.939	8.576	3.904	46.123	**Feb**	22	45	110	42
Mar	7,1%	27,3%	14,4%	16,2%	**Mar**	25.177	9.413	10.550	3.448	48.588	**Mar**	15	27	85	31
Apr	16,7%	15,4%	6,1%	8,5%	**Apr**	25.800	12.087	10.072	3.893	51.851	**Apr**	24	31	86	39
May	8,3%	20,5%	5,9%	9,1%	**May**	26.653	16.216	12.418	4.979	60.266	**May**	29	33	81	41
June	2,0%	8,0%	6,3%	5,8%	**June**	24.488	15.607	10.454	3.285	53.834	**June**	39	46	93	52
July	8,7%	6,2%	8,2%	7,1%	**July**	30.048	30.824	8.220	2.169	71.261	**July**	40	64	86	57
Aug	2,5%	3,8%	6,9%	5,3%	**Aug**	22.415	27.940	10.171	2.195	62.721	**Aug**	40	69	76	58
Sept	1,6%	4,5%	7,4%	6,1%	**Sept**	36.762	9.594	9.893	1.273	57.523	**Sept**	44	71	79	58
Oct	0,7%	3,5%	5,6%	4,2%	**Oct**	37.512	11.229	14.144	2.293	65.178	**Oct**	56	74	93	66
Nov	1,6%	5,6%	0,8%	2,2%	**Nov**	36.327	7.705	12.923	1.746	58.700	**Nov**	43	75	87	59
S1 05/dec	0,0%	2,3%	4,0%	2,9%	**05/dec**	4.242	910	1.300	34	6.486	**05/dec**	44	76	54	57
S2 12/dec	0,0%	2,3%	3,3%	2,4%	**12/dec**	10.077	3.141	4.434	180	17.832	**12/dec**	48	75	83	61
S3 19/dec	0,0%	2,3%	2,2%	1,8%	**19/dec**	17.535	4.634	7.028	348	29.545	**19/dec**	49	75	89	63
S4 26/dec	0,0%	2,3%	2,4%	2,0%	**26/dec**	21.717	5.675	8.956	639	36.987	**26/dec**	51	85	104	69
Average	0,0%	2,3%	3,0%	2,3%	**Projection**	26.930	7.037	11.105	792	45.864	**Average**	48	78	82	62

Source: Authors (2017).

In December, a break below the target set by the customer was maintained, but there was an increase in coverage and a drop in sales due to some commemorative dates that occur in the period, including school holidays, as shown in Table 8.

IV.　　CONCLUSION

Over the 8 months analyzed after the collaborative deployment, it was possible to establish and improve a few routines that made possible the success of the project presented to the client, such as:
·　　Weekly supply analysis-seeking control breaks and the coverage in the distribution center;
·　　Fortnightly applications suggestion – in order to maintain two months ' wallet ceramics;
·　　Biweekly analysis of client portfolio-following the evolution of sales with seeking does not produce ruptures;
·　　Dashboard weekly sent to the client and to the wrapped in pottery.

Through these routines, it was possible to achieve the goal of complete break stipulated by the client at the beginning of the project, with only two days above the ideal, but the months before reaching this goal, with the exception of October.

The reflection of having a healthy stock is noticeable directly in sales. If we compare the sales of the first half with the last, there was an increase of approximately 9,000 m², a very positive result for the first year of implementation of the project. As sales of the client increased, as a result, sales of ceramic coating industry increased also.

The collaborative is a project that benefits everyone involved, and can be applied to other clients, provided that he undertakes to provide the information and to facilitate the negotiations. The project aims to strengthen the relationship between customer and vendor enabling both work together to achieve their individual goals and in common.

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