



**Implementation
At A Dairy
Products
Manufacturer
In The Middle
East**



About The Client

One of the foremost producers of milk & milk products in the UAE, the client's product range spans fresh milk (full cream, half cream, double cream, low fat milk, skimmed, flavoured milk), laban, yoghurt, and 15 different types of Juices. They were the first dairy company to venture into natural juice in the UAE market. The company also diversified into functional dairy products for health-conscious consumers.

The company aims to be the trusted market leader in innovative food products. Their mission is to provide high quality, fresh, healthy and cost effective dairy & beverage products to their stakeholders through best business practices, excellent customer service, employee empowerment, modern and environmentally friendly technologies.

Their farm lies sprawled over 200 hectares on the outskirts of Dubai. The farm has a state-of-the-art factory, fully automated milking parlour supported by an extensive transportation facility to transport milk from the milking parlour to the processing unit to the consumer within hours, thus preserving the freshness and wholesomeness of the milk.

The Need

The client needed an Information System (IS) that could meet their requirements for both strategic decisions and operational feedback. Some of the expected information / report requirements are listed below:

Strategic Level

1. Product- and customer-wise costs and profitability analysis
2. Product segment-wise (milk, juice, etc.) profitability
3. Route-wise cost and profitability
4. Feed cost and profitability

5. "What If" analysis on parameters such as:
 - a. Change in Raw material prices of Purchase Milk, Concentrates or Recipe Norms
 - b. Sales price changes
 - c. Changes in drivers like time taken at Milk / Juice Plant
 - d. Changes in wages / salary structure and other cost elements
6. Variance analysis visa a vie the budget

Operational Level

1. Activity-wise cost analysis
2. Activity-wise cost rate trends
3. Activity-wise product cost sheet
4. Route-wise cost analysis
5. Variance analysis
6. New product costing using "What If" analysis by change of parameters

The Goals

1. Make net profitability for customers, channels, SKUs and brands more transparent, standard, and easy to access.
2. Identify profitable and unprofitable customers, channels, SKUs, brands etc. and understand the drivers of profitability.
3. Help create sales and promotion strategies by channel and product based on net profitability.
4. Make it easier to drill down profitability information through reporting layers.

The Implementation Process

Team formation

A dedicated ABC task force, with a mix of personnel drawn from Operations, Systems & Marketing and Finance (playing a facilitator's role) was formed. The ABC task force helped employees of different cost centres to map their activities so that they

could own the cost information. The listing eventually became the 'Activity Dictionary'. The exercise was conducted across all departments, both manufacturing and non-manufacturing.

The boundless enthusiasm shown by this taskforce was pivotal to successful introduction of ABC system at the client's office.

Systems study

The Pro-Active team held extensive discussions with the Operations and Finance teams. The objective of the exercise was to:

- i. Understand Flow of Operations
- ii. The nature of information flow
- iii. MIS requirements for each of the functions
- iv. Type of Financial accounting package in place

Preparation of 'Activity Dictionary'

The activities were grouped under hierarchies for analysis purposes.

Definition of customer and product hierarchies

The objective was to enable analysis of customer-wise profitability, across the different customer segments. We also aimed to have customer-wise, product-wise costs and profitability analysis.

Similarly the product hierarchy model ensured that the costs and profitability were captured at the SKU level, while the same can be rolled up at each of the above hierarchy levels

Mapping of resources

The next step was to map the resource expenses (account codes in the financial package) to cost element groups and cost elements. The resource expenses were mapped to activities through resource drivers.

Linking of activity costs to products, services and customers

Once the cost of activities was established, the linkage between activities and cost objects (such as products, services and customers) was accomplished by using activity cost drivers

The allocation bases were as follows:

Activity to Activity Allocation:

The ABC model facilitates allocation of expenses from certain service / utilities activities to other direct activities. For example HR-Admin department costs being allocated to other department's activities based on number of employees.

Activity to Products / product segments Allocation

Once the expenses had been taken to the direct activities, the costs were allocated to the products / product segments based on drivers, like machine hours, oven hours, labour hours, etc. Production activities cost was allocated to products through process hours / Filling hours/ CIP hours / production qty drivers and are divided by production quantity to arrive at unit cost. Milk and Juice department activities were attached with production related driver (product-wise filling hours, product-wise homogenizing, product-wise CIP hours, etc.). The juice department's activities cost were allocated to milk and juice products at various stages.

Product segment-related expenses like dry stores, facility

maintenance, purchase, QC and GM office department costs were allocated to product groups based on milk and juice production litres, and this again was allocated to products based on drivers such as production litres.

Activity to Customers / Customer segment allocation:

The expenses directly incurred in marketing, including the apportioned expenses, were taken to customers / customer segments based on drivers like sales value / quantity.

Customer-specific issues addressed

Material

In case of milk products segment, the customer had 3 product sub-segments:

- Fermented Items
- Flavoured Items
- Fresh Items

The customer was in the habit of sourcing his basic milk requirements from 3 sources:

- Own milk
- Purchased milk
- UHT Milk

The issue faced was that while the BOM for milk products were able to give the details on quantity of milk required for particular products, they were not able to identify as to which of the above 3 categories of milk was used for each of the products. In addition, the cost of own milk had to be generated through the package.

It was decided after consultation with the client to adopt the following methodology:

- For fermented products, the entire consumption for the period of UHT milk would be allocated and, for the remaining, production purchased milk to be considered
- For flavoured milk products, purchased milk was to considered and balance requirement if any was to be considered from own milk. Fresh items were considered to be derived from own milk only.

To execute this scheme, an algorithm was developed by the Pro-Active team. The client's team had to furnish the final production volumes for each product along with the consumption of each of the 3 milk varieties. The algorithm, when executed, enabled the 3 categories of milk consumption to be spread over the final production volumes

The Benefits

Consequent to the implementation of the ABC system, Al Rawabi had a wealth of information that was hitherto not available for decision making. For the first time Al Rawabi was in a position to see profitability from following perspectives

- Customer segment - local / export
- Product segment - milk, juice, miscellaneous
- Drill down to each product level

The results were quite revealing, and the following critical issues were highlighted.

- As is the case with any traditional cost estimation system,

the cost of low volume / small batches were typically underestimated. Within the same product but in different sizes, the economies arising due to size were not visible earlier. Though the higher volume cartons were priced at a lower rate, the costs for all volumes were basically estimated to be the same. **Post the ABC implementation, the management was in a position to identify effect of size on costs. This was crucial for pricing decisions based on the size of cartons.**

- **Another crucial area was in identifying the cost of distribution**, which accounted for nearly 15% of the total cost. The issue of their apportionment to various products and customers on different routes was tackled by linking customer master and related route codes. The 2 stage allocation of Route-wise costs was done as follows:
 - i. Total distribution cost was apportioned based on route-wise kilometres
 - ii. Once the route-wise cost was ascertained, the costs were allocated to customer and product, based on sales volume in litres

This process led the management to rethink the prices charged for the same product to different customers - particularly highlighting which customers and routes were under-priced.

- **ABC data enabled a clearer understanding of the impact of promotions and discounts on the profitability of each SKU, outlet-wise.** It enabled a relook of the current practice of line discounts offered by the Marketing team. The Finance team revisited the prices charged to all major customers and forwarded the results to Marketing for renegotiation of prices. In some cases the prices were revised upward to the extent of 20%

Due to these benefits, the client made the decision to replace their traditional monthly MIS reporting system with the ABC system.

About Pro-Active Solutech

Pro-Active Solutech is a Management Consulting Company with Total Cost Management and Enterprise Performance Management (EPM), Corporate Advisory and Legal Support. Enterprise Performance Management is the integration of multiple managerial methods to improve an organisation's strategic and operational performance.

About ABIS~PRO

ABIS-PRO, developed by Pro-Active Solutech, is a software package that helps to unearth useful insights into issues that have been plaguing the bottom-line.

ABIS-PRO offers solutions for 3 top areas where companies need assistance:

- Strategic decision making with informed cost management
- Optimising and improving operations
- Maximising product and customer profitability

ABIS-PRO can be integrated with different ERPs, across companies in varied industries for a range of benefits, including determination of cost per unit and net margin, cost reduction, cost control, pricing decision, make-or-buy decisions, variance analysis, budgeting, simulation, and product and customer profitability.



FEEDBACK FROM THE CLIENT

"ABIS-PRO's modelling tool enabled us to speed up our decision-making process and seize profitable opportunities."

DGM & Head - Finance

"ABC has helped us in having a clear picture of our past operations. It has enabled us to understand the Profitability mix of our products. It has also lent valuable support in understanding customer-wise profitability. This has helped us to shift our focus from segments yielding less returns to segments yielding higher returns. We also expect to use it as a tool for our budgetary requirements"

Manager - Internal Audit & Costing

