SINGAPORE MANAGEMENT UNIVERSITY

SMU-X with Hi-Beau

A project for ACCT 414 – Group 4

3. Product Movement Analysis Dashboard

Top 10 Issued — 2019-10
Top 10 Received — 2019-08
Bottom 10 Issued
Bottom 10 Received

Top & Bottom - Issued & Received

These bar charts show the top and bottom 10 issued and received products. The decision to only extract the top and bottom products is to draw the management's attention to products with most and least sales and purchase made. The most popular product will change accordingly as the clients select different time periods, which serves as a good reference for future procurement plan and assists the management to better allocate resources according to products past trends.

Top 10 Leftover
Bottom 10 Leftover

Top & Bottom - Leftover

This visualisation is accompanied with the top and bottom issued and received product visualisation, to extend the team's analysis on the top and bottom performing products during the period.

With these findings, Hi-Beau can explore the reasons why there is such an enormous difference between issued and received. Inaccurate forecasting model could be one of the reasons which resulted in unnecessary orders and expiry products. Other factors like marketing strategies, quality of products, substitute in the market are worth to be considered as well.

Top Received
Top Issued
P052

Product Type Breakdown & Comparison

The visualisation diagram on the left shows the breakdown of individual product with different packaging performance. This is commonly used together with the second visualisation which allows users to further investigate and compare the detailed movement of the specific product types. From this, the management will be able to know which packaging designs are most popular so it can better tailor its marketing strategy.

4. Product Status Analysis Dashboard

Status Breakdown by Product Code

32 (42.67%)
27 (36%)
7 (9.33%)
3 (4%)
1 (1.33%)

Condition
- Possible dispose
- Normal
- To watch
- To order
- Order
- Ordered
- To rearrange
- urgent
- Urgent to decide

List of Products to Watch

Product Code	Condition	Predicted Forecast	Forecast on past Sales	Months before Expiry
P067	To watch		4	6	5
P068	To watch		4	4	21
P069	To watch		4	10	13
P070	To watch		5	5	18
P071	To watch		6	7	9
P072	To watch		6	12	19
P073	To watch			4	32
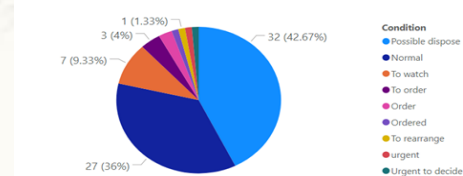
List of Products to Order

Product Code	Condition	Predicted Forecast	Forecast on past Sales	Months before Expiry
P005	Order		4	4	23
P029	Order		2	3	21
P030	Ordered		3	3	25
P063	To order		3	6	25
P064	To order		3	17	17
P065	To order		4	6	20

List of Urgent Products

Product Code	Condition	Predicted Forecast	Forecast on past Sales	Months before Expiry
P074	urgent		6	1	22
P075	Urgent to decide		5	3	8

Status Breakdown by Product Code

The pie chart shows various product status, which helps Hi-Beau to keep track of the updated status for all products. As compared to its existing practice where product status is shown on the title of individual excel file, this visualisation allows the management to quickly access to all product status at one glance. Hence, the management could efficiently manage its inventory to support its sales planning and procurement process.
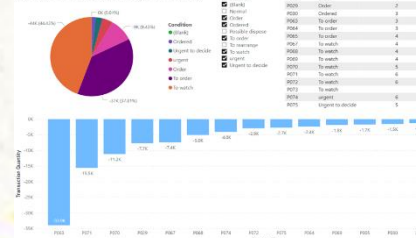
Status Breakdown by Quantity

In addition to break down by the product code, the status breakdown by quantity of the products helps the clients to improve the warehouse utility by prioritising product with higher transaction quantities when making the orders.

Useful Infographics

P041 — 507 Max Forecast on past Sales
P047 — -1354 Min Forecast on past Sales
P001 — 35 Max Months before Expiry
P027 — 3 Min Months before Expiry
P059 — 50 Max Predicted Forecast
P026 — 2 Min Predicted Forecast

Top 10 by Forecast on Past Sales
Bottom 10 by Forecast on Past Sales
Top 10 by Months before Expiry
Bottom 10 by Months before Expiry
Top 10 by Predicted Forecast
Bottom 10 by Predicted Forecast

These graphs are created based on existing forecasting models and recorded expiry date, allowing the management to have a more comprehensive view of the situation by making cross-comparisons between different forecasting results.
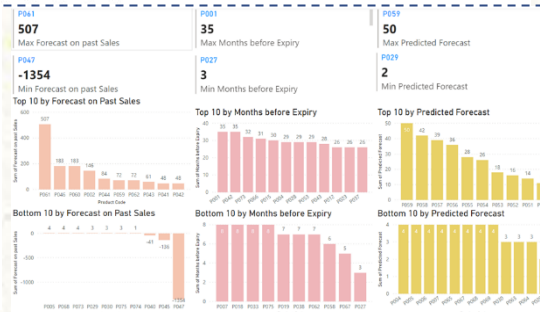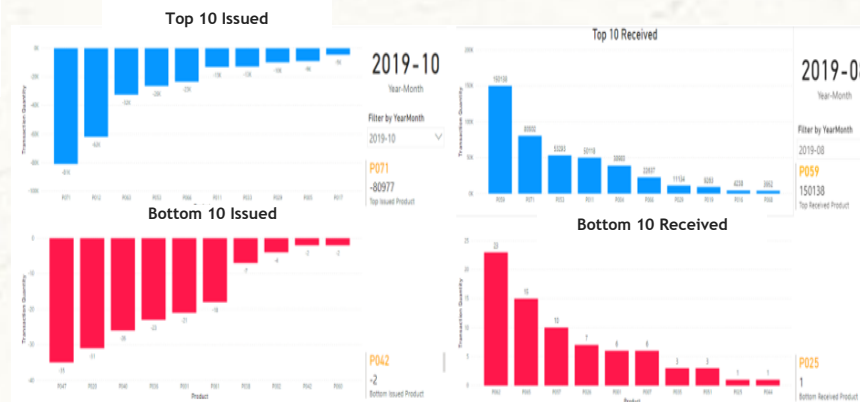
5. Recommendation

1. The team **re-designed and standardised the format** of the existing 75 files as Hi-Beau wished to keep the existing stock cards method to update daily transaction information with minimum changes.
2. The team transformed theses files into **one single consolidated intermediary file using SQL code** which serves as the data source for Power BI dashboard.
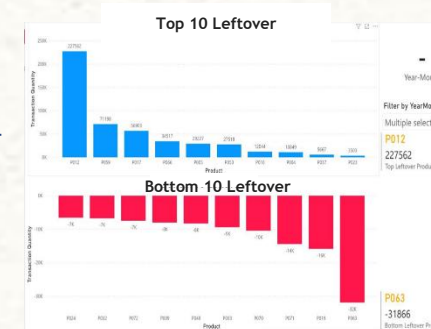
Others:

In future, Hi-Beau could establish an **Access database**, which directly linked to the dashboard, to replace existing practice of separate excel record for each individual product. The database can help Hi-Beau to reduce errors i.e. **normalisation anomalies and achieve better internal control**.

1. Project Brief

Founded in 2004, Hi-Beau has been the leading company in Singapore, providing quality healthcare and beauty products. Today, it has established its presence in the global market, including countries like China, Malaysia, Europe, USA and Africa.

In recent years, people have become increasingly health conscious. Hi-Beau has been constantly developing and enhancing its products to cater to this increasing demand for healthcare and beauty products than ever. Thus, Hi-Beau aims to provide the best services to all its customers while ensuring availability of the required goods. By ensuring the smooth flow of goods, it also ensures the stability of the company.

In the light of this, Hi-Beau has commissioned the team to design and develop a dashboard, enabling its management to effectively track historical data and inventory to support the forecasting and planning of sales and procurement processes through predictive analytics.

2. Overview Dashboard

Total Received Products
2019-08 — 443594 Top Received
Total Issued Products
2019-10 — -324278 Top Issued

The overview line charts display the total inventory issued and received over the years to highlight the trends of inventory performance to the management. This allows the management to determine if there are any seasonal and cyclical trends.

By comparing both trends on the same sheet, the management can analyse the relationship between total received and issued products by investigating the factors that affect peaks and dips to improve future sales planning and procurement cycle.