

# Integrating DataWarehousePro with Economic Surveillance and Analytical Systems

## Background

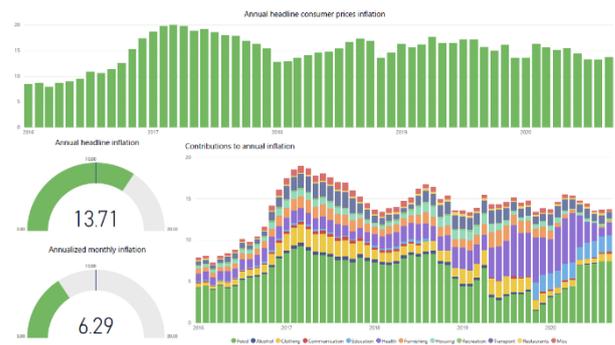
The DataWarehousePro is designed to be the corner stone of analytical frameworks and the corner stone for their organic growth. The DataWarehousePro's general connectivity allows users to access data in real time, which opens countless opportunities to use the data. For example, some clients have used the DataWarehousePro as a basis for economic surveillance, real-time reporting, forecast tracking, early-warning systems, or event-triggered analytics.

## Dynamic Data Querying

DataWarehousePro uses a general machine-readable data standard. Thanks to this, DataWarehousePro is fully compatible with third-party software like MS Excel, MS Power BI, Matlab, R, Python, EVIEWS and many others that allow for dynamic data querying. We are further working towards the ISO 17369 standard for exchanging statistical data and metadata.

## Data Warehouse Integration

DataWarehousePro seamlessly integrate with existing analytical systems, which expands the opportunities of how our customers can use their own data. For example, central banks integrate DataWarehousePro's capabilities with their economic surveillance, banking sector and financial stability surveillance, or forecasting systems. Ministries of finance integrate it with revenue forecasting systems, or medium-term expenditure frameworks. Customers in the private sector integrate it with market surveillance or event-triggered analytics.



A dashboard sheet for monitoring consumer prices.



Reporting regional developments of consumer price inflation.

Commercial Banks' Analytical Balance Sheet (in 'Millions)	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18
<b>RESERVES</b>	4,961,132.1	4,726,305.2	5,128,797.4	5,376,988.6	5,298,187.4	5,556,003.2
Currency	372,173.1	333,894.7	362,922.0	367,398.3	354,822.7	342,204.0
Deposits with CBN:	4,588,959.0	4,372,350.5	4,765,845.4	5,009,590.4	4,943,359.7	5,206,699.2
(i) Reserve Requirements	3,933,508.2	3,929,276.5	4,003,419.3	4,129,650.8	4,219,896.9	4,291,024.7
(ii) Current Accounts	476,450.1	267,188.3	572,224.1	689,792.5	540,586.9	745,079.8
(iii) Other Deposit	179,010.7	175,885.7	190,202.0	190,144.1	182,875.9	170,594.7
<b>CLAIMS ON CENTRAL BANK</b>	2,525,998.4	3,566,974.4	3,089,471.7	3,324,089.6	3,667,631.7	3,760,265.5
(i) Stabilization Securities	0.0	0.0	0.0	0.0	0.0	0.0
(ii) CBN Bills	2,525,998.4	3,566,974.4	3,089,471.7	3,324,089.6	3,667,631.7	3,760,265.5
(iii) Shortfall/excess credit others	0.0	0.0	0.0	0.0	0.0	0.0
<b>FOREIGN ASSETS</b>	2,612,560.3	2,682,465.1	2,700,892.7	2,922,918.1	3,187,807.2	2,968,058.8
Foreign Currency Holdings:	179,617.2	222,814.1	233,014.7	236,265.1	227,937.7	251,903.8
Claims on Non-resident Banks:	2,432,943.1	2,459,651.0	2,467,878.0	2,686,653.0	2,959,869.6	2,716,155.1
(i) Balances held with banks outside Nigeria	2,299,316.8	2,350,124.3	2,345,840.8	2,561,833.6	2,838,958.8	2,564,972.8
(ii) Balances held with offices and branches outside	133,261.3	109,158.4	121,665.5	124,413.3	120,500.9	150,756.3
(iii) Loans & Advances to Banks outside Nigeria	365.0	368.3	371.7	406.1	409.9	426.0
Bills Discounted/Payable outside Nigeria	0.0	0.0	0.0	0.0	0.0	0.0
<b>CLAIMS ON CENTRAL GOVERNMENT</b>	3,903,148.7	3,420,682.2	3,573,714.6	3,183,274.0	3,381,637.9	3,249,100.9
Treasury Bills / Treasury Bills Rediscounted	2,005,396.5	1,421,847.2	1,583,383.4	1,232,584.9	1,439,816.3	1,427,146.5
Treasury Certificates	0.0	0.0	0.0	0.0	0.0	0.0
FGN Bonds	1,897,631.5	1,860,675.0	1,850,241.1	1,812,621.5	1,801,959.1	1,680,383.2
Loans & Advances to Central Government	117.7	138,160.1	140,090.0	138,067.6	139,882.5	141,571.1
Bankers Unit Fund	0.0	0.0	0.0	0.0	0.0	0.0

Example of automatically updated reporting table in monetary surveys.



## SUMMARY

### Objective:

Integrate DataWarehousePro with an existing analytical framework.

### Solution:

Deploy DataWarehousePro application and consolidate organization's data on this platform.

Programmatically connect existing analytical systems with the central data warehouse.

Review existing analytical systems and adapt them for automation.

### Benefits:

- Management gains access to timely market intelligence for decision-making.
- Staff gains real-time access to data, and sustainably operate a larger portfolio of analytical tools.
- Existing analytical systems' life gets extended and their productivity improved.
- Training local staff; technical and software support.

## Application Example

We cooperate with institutions that use DataWarehousePro for their data management, and help them integrate DataWarehousePro with their systems for economic or financial surveillance. The systems are designed to support specialists in monitoring the situation and assessing the imbalances in real, monetary, fiscal or external sectors of the economy. The systems are centred around the DataWarehousePro and consist of data dashboard packages.

The basic problem is that the sectoral specialists often manually compile data and process them for reporting. It is inefficient because the same tasks must be repeated whenever the source data is updated or revised. It is a key-person risk for the institution because the data processing is usually highly individualistic. It is also a potential financial-loss (or at least reputational) risk because manual data processing is prone to errors.

When an institution uses DataWarehousePro for managing its databases, it offsets the inefficiencies and risks. Standard charts, tables, and other reporting can be connected to the central data warehouse and their production automated. Whenever the database is updated, reports are automatically updated and disseminated. The data is stored in a single, secure place, regularly updated and backed-up.

## Scoping and Implementation

How do we work? In an initial videocall, we discuss client's general needs and draft the terms of reference. Then we submit a binding offer. Our team can work both remotely and on-site.

We follow the Agile methodology of product development. In our experience, this guarantees the best result for the client, including a strong ownership of the final product. We always start simple. We identify the core functionalities first. Only after that we add the "bells and whistles" and graphical design. A project that integrates existing analytical systems (including our off-the-shelf packages) can take anywhere between a week and a few months to complete. Regardless of the project's duration, the client always sees the results immediately -- we test the product early and test it often. We believe in on-the-job training. The client's team gets trained along the way of the product development and implementation.

We often recommend our clients to integrate DataWarehousePro with third-party software and leverage on their existing analytical functionality. Such synergy is the most cost-efficient and robust solution for our clients. But we also develop customized analytical functionalities fully integrated in DataWarehousePro.

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