POSITION PAPER ON
Application of Data Analytics

Critical Dimensions to Achieve Success with Data

1. With the rising awareness of the importance of data, organizations began to incorporate data analytics into their digital transformation journey. From data preparation, governance, to visual analytics, there are numerous theories and approaches used to achieve results.

2. This position paper discusses a structured approach, based on the **People**, **Platform**, **Strategy**, and **Use Case**, to show case a practical guide in applying data to an organization.

PEOPLE ⬚ Data Literacy Empowerment

3. A series of industry recognizable training should prepare an organization for the necessary changes to become truly data driven. From top management to general staff, each hierarchy layers will be equipped with relevant levels of **Data Literacy**.

4. **Data Leader (DL)**, including Board members, General Managers, and Head of Departments are expected to drive data culture, and support staff at all levels on both implementation and knowledge. Data Leaders will be setting visions and providing required resources for initiatives to come.

5. **Citizen Data Scientists (CDS)**, usually nominate and selected by the Data Leaders, to promote data driven culture through enhancing technical capability over time.

6. **Data Citizen (DC)**, open to bank-wide staff. Raising overall awareness as well as improved knowledge to think, speak, and act with data.

7. An ongoing **Data Community** will be created to ensure the productivity of use case generation, knowledge transfer and support of data usage.

8. External collaboration is encouraged to facilitate the training with required tools such as Data Visualization software.

PLATFORM ⬚ from Zero to Data Commercialization

9. In order to facilitate changes, specific foundations need to be constructed in parallel.

10. **Storage** – Traditional companies especially with a sizable operation often built their database gradually on a need basis approach. Databases are often designed and rolled out independently (silo), with a specific purpose, installed locally by different vendors. Naturally, a new Storage infrastructures is required to match the need for safe, easy, structured, and stable access across the

whole organization. Going Cloud is one inevitable option. Migrating existing data warehouse to cloud, prioritizing from front to back office will achieve just that.

11. **Preparation** – Although each data user is expected to prepare their own data. Nonetheless, group wide standards on Data Governance is a must. Setting up committees such as Data Council, to define rules and policies to uphold communication efficiency, data quality, and gate keeping security.

12. **Process** – riding on good quality data source, AI and Machine Learning can take place. Users will be able to leverage Tagging Library, Visual Analytics to generate directions and insights. Which in turn helps decision makings.

STRATEGY ⏵ Data Adoption by Every Staff

13. A true data driven company requires every staff to engage in data. Roles and Responsibilities can first be separate Centralized Team from the rest of the non-data staff.

14. **Centralized Team** – Advanced analytics, modelling, and machine learning capabilities are expected to be developed by a centralized team led by the Data Team. They will act as a point of contact for the whole organization to provide guidance and support on both knowledge and practical initiatives.

15. **Rest of Staff** – A range of tools should be available for both senior and junior staff to access. For example, senior staff who needs to make management decisions on a daily basis can make use of Self Service Market Place to be more informed and efficient.

USE CASE ⏵ Real-time Analysis

To ensure the practicality of the data journey, it is advised to go for a Use Case approach.

16. To gain trust and support from senior management, it is important to produce use cases that can bring in quick wins and return. Real-time analysis can be a useful option.

17. Example for banks:

- Significant account movement such as receiving a lump sum of cash
- Real-time analysis has performed to identify whether the cash deposit is:
  a. Fraud ⏵ which will be alerting relevant systems
  b. Legitimate transaction ⏵ provide simple recommendations such as investment advice if the cash came from selling a stock

Conclusion

18. In the foreseeable future of the data economy in banking. Data will become more and more like a currency which can be used to monetize for both customers and banks, once the market has successfully tackled the "consent problem".

19. **Open Banking**, where banks are sharing customer data (with consent) to third party service providers. They will be able to create products and services that can leverage looking at the whole picture of customers' portfolios.

20. **Open Finance**, where banks are taking in alternative/external data (with consent) from third parties. This allows banks to create tailored financial products and services to individual customers with low costs.

21. With the right preparation mentioned in previous sections, organizations should be able to take hold of the opportunities where data collection, preparation, analyze, and usage capability are fully ready.

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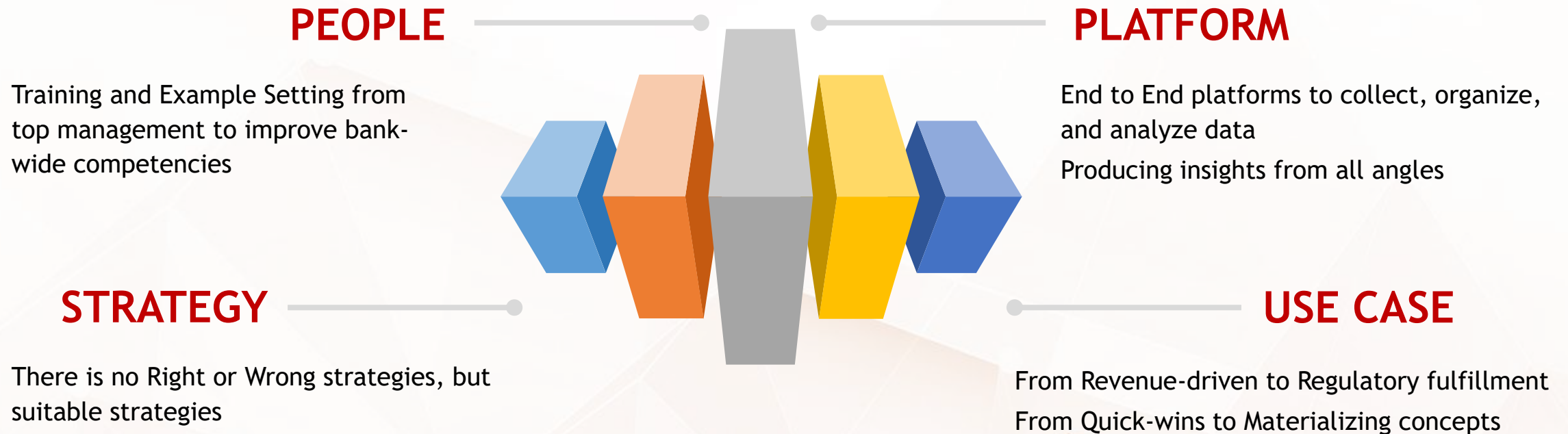*The Bank of East Asia, Limited*

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Critical Dimensions to Achieve Success with Data

PEOPLE

Training and Example Setting from top management to improve bank-wide competencies

PLATFORM

End to End platforms to collect, organize, and analyze data

Producing insights from all angles

STRATEGY

There is no Right or Wrong strategies, but suitable strategies

USE CASE

From Revenue-driven to Regulatory fulfillment

From Quick-wins to Materializing concepts

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1. PEOPLE ➜ Data Literacy Empowerment

Conducting 45 Training Sessions in 6 months

Project Team

Fintech, Data, Training department
- OpenCertHub
- Tableau

Bank-wide Training

DL — **Data Leader**
Visions & Concepts

DC — **Data Citizen**
Think, Speak, and Act with data

CDS — **Citizen Data Scientist**
Data Visualization

Data Community

Adjust

Plan Ongoing Check

Do
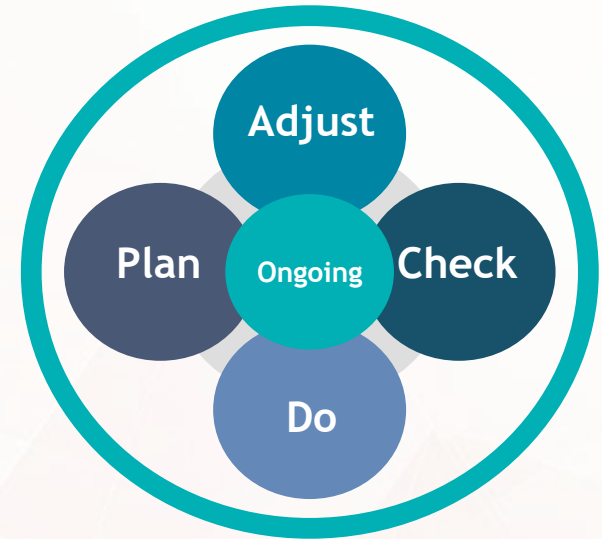
- Problem Solving
- Use Case generation

2. PLATFORM ➜ From Zero to Data Commercialization

STORAGE

PREPARATION

PROCESS

BIG DATA ANALYTICS

Going Cloud

- Migrate existing data warehouse to cloud

- Prioritization from Front to Back office

Data Governance

- Data Governance (DG) Council to design bank-wide standards and policies

- Leverage tools to configure and uphold data quality
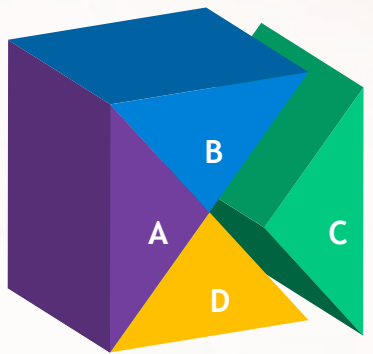
Tagging, Tracking & Analyze

- Tagging Library

- Visual Analytics

- AI & Machine Learning

3. STRATEGY ➡ Data Adoption by Every Staff

Centralized Team

Rest of Staff

ADVANCE ANALYTICS
Applying automation and artificial intelligence (AI) to cope with complex datasets and produce deeper insights and predictions

MODELLING
Manage data as a resource
- Propensity Models
- Network Analytics
- Database/Data warehouse Design

MACHINE LEARNING
- Chatbot/ Virtual Assistant
- Customer behavioral learning

GOVERNANCE
7 Data Quality Dimensions
1. Accuracy
2. Completeness
3. Validity
4. Uniqueness
5. Integrity
6. Consistency
7. Timeliness

Senior

Junior

Tools

Self Service Market Place

Data Visualization

Back Testing

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4. USE CASE ➜ Real-time Analysis

Significant Account Movement

Real-time Analysis

Fraud Alert

Suspicious behavior
- Transaction
- Investment related

Simple Recommendation

Legitimate behavior
- Transaction
- Investment related

FX
Stock
Funds
Loan

Simple to Complex

Instant alert on a comprehensive range of customer account movements
1. Received large amount of cash
2. Perform real-time checking
   - Suspicious behavior ➜ Alert
   - Legitimate behavior ➜ Recommendation

Future of Banking & Data

Open Banking

Allowing customers to take control of their own data, and share with Third Party Service Providers (TSP)

- Banking data
- Banking as a Service (BaaS)
- Embedded Finance

Consent

Consent
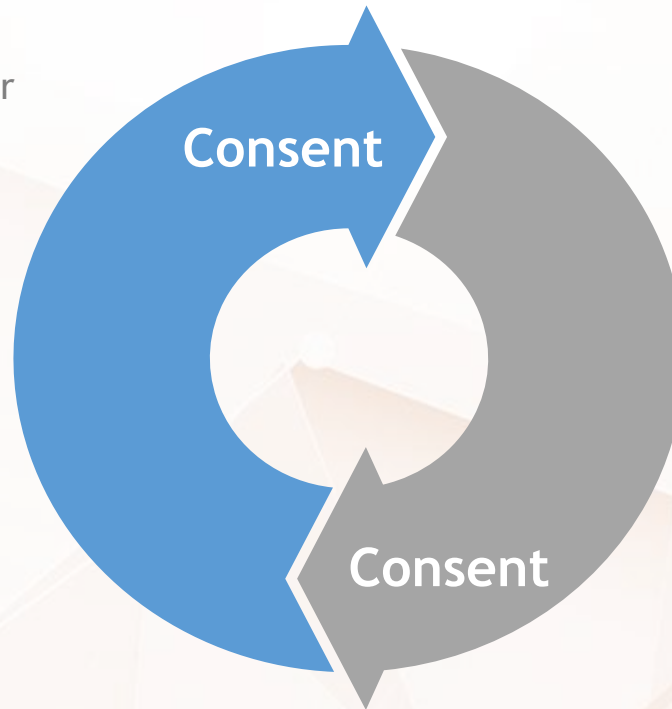
Open Finance

Allowing Banks to leverage external data to create tailored products and services

- Alternative/3rd party data
- Open Ecosystem

Thank You!