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Correspondence Memorandum

Date: November 9, 2023
To: Audit Committee
From: Amanda Williams, Auditor
 Michelle Hoehne, Auditor
 Office of Internal Audit (OIA)
Subject: OIA Data Analytics Project Update

This memo is for informational purposes only. No Committee action is required.

Data Analytics

Data Analytics is a useful tool in business processes as well as auditing. Over the last several years, OIA has placed an emphasis on using data analytics to complete audit testing. While some of this testing can be completed in Microsoft Excel (Excel), audit staff have expanded their data analytic skills by implementing the use of other data analytic tools, such as Audit Command Language (ACL) Analytics and TeamMate Analytics. ACL Analytics is a data analytics software that provides several analytical tools to evaluate data. OIA is able to connect to the Department of Employee Trust Funds' (ETF's) data servers using ACL Analytics to extract data for audit testing. TeamMate Analytics is an Excel add-in that provides similar data analytical tools specific to the auditing process. This analytical tool is associated with OIA's audit management software, TeamMate+.

Continuous Monitoring

As ETF business processes and programs evolve, it is important for OIA to adapt to the needs and risks of the organization. ETF manages many complex programs, processes, and systems. OIA uses a risk-based approach to determine where audit resources should be allocated. However, we are not able to cover all aspects of ETF's operations. A continuous monitoring program will help us provide a more proactive and dynamic approach to our assurance services.

Another benefit of using a continuous monitoring program is that it will allow OIA to identify issues in ETF processes more readily and efficiently. By utilizing our data analytics software and our knowledge of ETF's programs, processes, and systems, we will be able to identify issues that the business areas can investigate and resolve. As we develop data tests, we will be able to provide business areas with feedback on their processes on a regular basis; and they will be able to address the issues identified more

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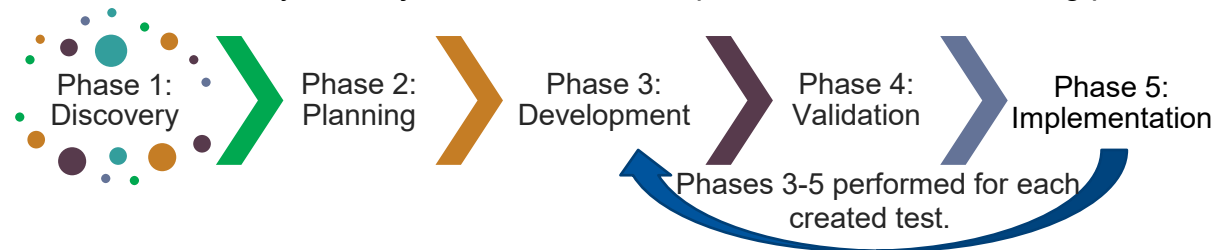
quickly than they would have waiting for a more extensive audit to be completed. Although ETF already utilizes data analytics for its processes, including data quality reports and dashboards, OIA can provide further assurance that these processes are working as intended.

In addition, the continuous monitoring process will help OIA identify the areas of ETF that could benefit from further review through an audit, which would provide a more detailed review of the process and feedback through recommendations and process improvement suggestions.

OIA Data Analytics Project

OIA staff have already been utilizing data analytics in audits for improving audit testing, including testing entire populations instead of samples in some instances. Through the Data Analytics Project, OIA will be able to expand the use of data analytics to continuously monitor ETF business processes and data quality. To accomplish this effort, OIA is enhancing our understanding of data used across ETF business areas and by ETF vendors, as well as the source of that data. OIA will then use that knowledge to develop data testing on potential areas of concern.

The OIA Data Analytics Project has been developed to include the following phases:



Phase 1: Discovery

- Gather information on ETF's use of data, data sources and identify data concerns.
- Completion Date: Early December 2023

Phase 2: Planning

- Identify the goals and strategy for performing the data analytic testing.
- Identify the type of tests that will be performed and the resources needed.
- Expected Completion Date: February 2024

Phase 3: Development

- Develop the data analytic tests identified in the planning phase.

Phase 4: Validation

- Validate the data analytic tests and determine parameters for exceptions.

Phase 5: Implementation

- Run data analytic tests that have been developed and validated based on predetermined test cycles (monthly, quarterly, yearly, etc.).
- Provide business areas with any identified exceptions.
- Report data analytic testing results to management and the Audit Committee.

Phase 3 through 5 will be completed for each data test identified for testing. Once a test is in the Implementation Phase, it will be periodically run on a schedule, determined by OIA, to address the needs of the business area.

This project is being led by OIA auditors, Michelle Hoehne and Amanda Williams. Yikchau Sze, OIA Director, will be supervising the project and monitoring the progress. Both Michelle and Amanda have previously utilized data analytics in their audits to improve the testing performed and increase the audit coverage. They have increased their knowledge of data analytics with trainings in ACL, TeamMate Analytics, and other trainings related to auditor use of data analytics and continuous monitoring techniques. As it is anticipated that this project may utilize Tableau, which is a data visualization software used by business areas within ETF, both are training on how to use this tool as well. As this project progresses, OIA intends to train all its auditors to be able to contribute to this initiative to ensure cross-training and sustainability of this effort.

As we make progress with this initiative, OIA will provide the Audit Committee with updates at its quarterly meetings.

Phase 1: Discovery

As of the date of this memo, we have completed a significant portion of this phase of our project. We have performed the following steps:

- We reviewed information on ETF's systems and data including the resources created by the Data Management Bureau (DMB). DMB has documented data flows and data models of ETF's systems and processes as well as other resources that we can reference for our Data Analytics project.
- We conducted a survey with ETF management and staff to understand ETF's data usage and any concerns about ETF's data. We received 30 responses from business areas across ETF.
- We discussed ETF's use of data with key business area contacts, including the Director of the Data Management Bureau, the Lead Data Steward, and business analysts within the Division of Retirement Services.

The information we have gathered will be used in Phase 2: Planning. We plan to communicate some of the key take aways from the Discovery Phase of our project to management and the Audit Committee at the completion of Phase 2.

Staff will be at the Committee meeting to answer any questions.