Recommendations Document

**Question1: Who owns the enterprise data strategy in your organization**

*Answer 1: Don't Know / Not Applicable*

Recommendation: Identify a clear owner for the enterprise data strategy.  
Many organizations have more than one data strategy, possibly for each  
line of business or corporate function. Some of these get refreshed over  
time while other become outdated and obsolete. As a result, organizations  
often tend to acquire multiple technologies with overlapping functionality  
and require talent to support these technologies. Furthermore, some of  
these technologies may not work well with other technologies, making it  
difficult to share data and information across the organization. This can  
lead to confusion, inefficiencies, and wasted resources over time. Deluxe  
should start with an enterprise view and establish a clear owner for the  
enterprise data strategy. This person needs to have the overall  
responsibility for driving data and analytics initiatives across the company,  
obtain the necessary support for these initiatives, and establish clear goals  
and objectives for the team.

**Question2: How do you ensure that you have the right data and code between all your environments**

*Answer 2: Don't Know / Not Applicable*

Recommendation: Leverage CI/CD tools for code and infrastructure changes. Continuous Integration (CI) is a software development practice in which developers regularly integrate their code changes into a shared coderepository. This allows the team to detect and fix integration issues early in the development process. The code changes are automatically built, tested and validated before being integrated to the main project. Continuous Delivery (CD) is a software development practice that builds upon Continuous Integration by automating the process of delivering software updates to production. It ensures that the codebase is always in a releasable state, which can help organizations deploy new features and bug fixes more quickly and with less risk. The main goal of CI/CD is to create a fast feedback loop between developers and the codebase, which can help organizations to deliver new features and bug fixes more quickly and with less risk. It also helps to minimize the time between the development and the release of a new feature, by automating the testing, building and deployment of the code changes. AWS offers CodeCommit, CodeBuild, CodeDeploy, and CodePipeline to integrate Continuous Integration (CI) and Continuous Deployment (CD) pipelines. While maintaining code and data in different environments, it is necessary to make sure lower environments do not have production data.To maintain data integrity Amazon Macie can help audit the data in lower environments to make sure they do not have PII elements. If such elements are found, notifications can be sent out using Amazon SNS or the sensitive data can be redacted using a Glue job or Lambda function.   
 Apart from Amazon Macie, AWS Glue also provides capabilities to detect and process sensitive data.For more details, refer to the following information:  
 Deploy data lake ETL jobs using CDK Pipelines.   
 Deploy an AWS Glue job with an AWS CodePipeline CI/CD pipeline .   
 Overview of Amazon RDS Blue/Green Deployments.   
 Complete CI/CD with AWS CodeCommit, AWS CodeBuild, AWS CodeDeploy, and AWS CodePipeline.   
 Creating a notification workflow from sensitive data discover with   
 Amazon Macie, Amazon EventBridge, AWS Lambda, and Slack

**Cumulated score is: 1.2**