RE6124019 吳明軒

**Title:**

A Case Study of Reliability Risk Assessment in the Cloud Hardware Industry

**Name:**

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**Major Topics:**

* Reliability risk assessment in product life cycle
* Application of statistical methods in different life cycle stages
* Using statistical analysis to assess product reliability and failure risks
* Decision making based on case analysis

**Relation to Course Objectives:**

The goal of this course is to learn how to apply statistical methods to solve real-world problems. This talk demonstrates in detail through a case study how to utilize statistical analysis to assess product reliability and risks, and how to make decisions based on statistical analysis results. It is highly relevant to the course objectives.

Thoughts and reflections in a list of items:

I believe that the topic of this speech, "Case Study on Reliability Risk Assessment in the Cloud Computing Hardware Industry," is highly relevant to the learning objectives of our course. The speaker provided a detailed explanation using a real case of how statistical methods can be employed to assess the reliability and risks of products, and how business decisions can be formulated based on statistical results. I gained a lot of practical knowledge from this.

I learned that statistical analysis is crucial in practical applications and should not be confined to the theoretical realm. The speaker emphasized the importance of combining an understanding of both business and data to conduct statistical analysis. For instance, in the case presented, understanding the different stages of the product lifecycle and considering the influence of different batches and suppliers were essential. This made me realize that statistical methods, in theory, need to be appropriately adjusted to align with real-world situations.

I also observed the significance of interpreting statistical results. The speaker provided a detailed explanation of how to translate statistical model results into business decisions. For example, estimating the failure rate based on the lifespan curve and subsequently determining the inspection duration to intercept faulty products. This taught me that the value of statistical analysis lies in its ability to support decision-making.

Furthermore, I learned the importance of distinguishing the applicability of statistical methods to different lifecycle stages. The speech particularly highlighted that the same model may not be suitable for describing the entire lifecycle and that characteristics of the infancy, normal usage, and aging phases should be differentiated. This perspective made me aware that statistical methods need to be specific to each stage.

In summary, this case study presentation deepened my understanding of the practical application of statistical methods. The knowledge I gained also underscored the importance of continuous learning in statistics to tackle more complex real-world problems. It was a highly beneficial learning experience.