# Lesson 3: USING AI AND MACHINE LEARNING IN BUSINESS

## Project Statement

Summary:

In order to bring value to your AI Project, you need to identity the following points:

* Problem Statement
* How does AI add value
* What is the data needed
* What is the project scope
* How to measure the success of the project

## Breaking it All Down

In this video, some use cases is given to sort out all the points that were mentioned in the [previous section](#_Project_Statement).

See video: <https://youtu.be/0ew7NYl7z4Y>

## Metrics

An effective metrics has the following properties

* Easily measurable
* Directly correlated to business performance
* Predictive of future business outcomes
* Isolated to factors controlled by the group it’s measuring
* Comparable to competitors’ metrics

Generally when we want to apply AI into our project, we would usually build and train an end to end deep learning model to recognize patterns in a large dataset. We’ll then look at metrics that define the success of the trained model and parameters that affect how it trains.

When a model does not know the answer to a specific query or how it might respond to a certain input, you should gather more data from human annotators and re-train your model to increase its knowledge base and increase the confidence of your model.

## Metrics Example: LinkedIn

In this example, we’ll look at how metrics can be used in real world application by LinkedIn.

See video: <https://youtu.be/L_euYcomYxE>

## Need for an AI

Not are projects are well suited for AI. Generally you would use these following question to decide whether to include AI into your project or not. (Note: keywords are **bolded**)

* Do you have an **impactful business problem** that warrants solving?
* Can you **quantify the data** of the business value clearly and simply?
* Does the problem have a **large volume of associated data**?
* Does the **quality of the dataset** you have is complete and matches your use case?

## QUIZ

**Question** - What is the correct steps would you work to gauge the effectiveness of a machine learning model?

I – You make decision and apply necessary changes from the obtained metrics.

II – You use measures such as the F1 score, the accuracy, and the confusion matrix.

III – You implement a choice selection of performance metrics.

IV – You would split the dataset into training and test sets, or perhaps use cross-validation techniques to further segment the dataset into composite sets of training and test sets within the data.

1. I, II, III, IV
2. IV, III, II, I
3. I, III, II, IV
4. IV, II, III, I

**Answer - B**

## Additional Notes

References:

1. <https://www.slideshare.net/dmc500hats/startup-metrics-for-pirates-long-version/5-Customer_Lifecycle_Conversion_Behavior_Websitecom>