Definitions:

1. AUC\_holdout
   1. At the beginning of the simulation, we slice a portion (30%) form the dataset – named holdout-set -- to serve for evaluation of the model performance on unseen dataset.
   2. This value exists for all batches across all scenarios.
2. full\_AUC
   1. In case the employed payment\_selection\_criteria is data-driven (in contrast to minimum/max payment, random payment, etc.), each iteration begins with an internal evaluation of the model performance through cross-validation using the training set.
   2. This value doesn’t exist when purchasing the initial instances for the training set.
   3. This value doesn’t exist when employing non-data-driven payment\_selection\_criteria.
3. subset\_AUC
   1. In case the employed payment\_selection\_criteria is data-driven, the contribution of each payment to the model performance is estimated. Internal evaluation is conducted through cross-validation using the training set while discarding arbitrary instances of a specific payment.
4. full\_model\_CV\_performance\_t
5. partial\_model\_performance\_t
6. delta\_performance\_improvement\_t = full\_model\_CV\_performance\_t - partial\_model\_performance\_t
7. expected\_performance\_(t+1) = full\_model\_CV\_performance\_t + delta\_performance\_improvement\_t =

2\* full\_model\_CV\_performance\_t - partial\_model\_performance\_t