

**Classification Matrix & Sensitivity Analysis for Validating Licensing Key indicator Systems (Fiene, 2017)**

	1	2	3	5	7	8	10	Comments
A	1.00	1.00	1.00	0.00	0.00	1.00	1.00	Perfect
B	0.52	0.52	0.52	0.48	0.48	0.52	0.04	Random
C	0.71	0.96	0.94	0.04	0.29	0.84	0.70	False (-)
D	0.94	0.78	0.71	0.22	0.06	0.81	0.70	False (+)
E	-----	0.00	0.00	1.00	-----	0.00	-----	False +100%
F	0.00	0.00	0.00	1.00	1.00	0.00	-1.00	False+-100
H	0.45	0.46	0.40	0.54	0.55	0.46	-0.08	Random

**Measures:**

- 1 = Sensitivity             $TPR = TP / (TP + FN)$
- 2 = Specificity            $SPC = TN / (FP + TN)$
- 3 = Precision             $PPV = TP / (TP + FP)$
- 5 = False Positive       $FPR = FP / (FP + TN)$
- 7 = False Negative      $FNR = FN / (FN + TP)$
- 8 = Accuracy             $ACC = (TP + TN) / (P + N)$
- 10 = Correlation         $((TP)(TN)) - ((FP)(FN)) / \text{SQRT}((TP + FP)(TP + FN)(TN + FP)(TN + FN))$

- PP = Predicted Positive = CI+
- PN = Predicted Negative = CI-
- TP = True Positive = KI+
- TN = True Negative = KI-

	TRUE POSITIVE (TP)(KI+)	TRUE NEGATIVE (TN)(KI-)
PREDICTED POSITIVE (PP)(CI+)	++	+-
PREDICTED NEGATIVE (PN)(CI-)	-+	--

**CI+/CI-/KI+/KI-**

- A = 25/0/0/25 - Perfect match between CI and KI.
- B = 13/12/12/13 - Random matching between CI and KI.
- C = 17/7/1/25 - KI+ x CI- (False-)
- D = 17/1/7/25 - KI- x CI+ (False+)
- E = 0/0/50/0 - KI- x CI+ unlikely
- F = 0/25/25/0 - False + & - 100% unlikely
- H = 20/24/30/26 - Random matching between CI and KI.