

# The Regulatory Compliance Matrices: Risk, Compliance, and Licensing Decision Making

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Several forms of matrices have been used in describing the parameters of regulatory compliance, such as for risk assessment, compliance patterns, and decision making along an uncertainty-certainty rubric. This research abstract will distill this thinking into one approach in attempting to standardize the various approaches into a 2x2 matrix approach. Most of the other approaches utilize a 2x2 format except for the risk assessment matrix (RAM)(3x3) but that will also be put into the same 2x2 format.

***Table 1: Risk Assessment Matrix based upon Risk/Severity and Probability of Happening***

Risk Assessment (RAM)		Risk/Severity	Risk/Severity
		High	Low
Probability	High	4	2
Probability	Low	3	1

Table 1 provides the 2x2 logic to the matrix in how risk assessment would be determined based upon the potential risk/severity of a particular rule/regulation and its potential or probability of being out of compliance. This new 2x2 matrix transitions from a 3x3 matrix with the same horizontal and vertical axis's but now it is much more streamlined and consistent with the other matrices used to describe the parameters within regulatory compliance. Obviously, the higher the number, the greater the risk and the greater the potential of it occurring. The lower the number, the lower the risk and the lower the potential of it occurring. The resulting rules from RAM are ones that are to be reviewed every time an inspection is done, no exceptions.

***Table 2: Uncertainty-Certainty Matrix (UCM) regarding Compliance and Decision Making***

UCM Matrix Logic		Decision Regarding	Compliance
		In Compliance	Not in Compliance
Actual State of	In Compliance	Agreement	Disagreement
Compliance	Not In Compliance	Disagreement	Agreement

The above UCM matrix demonstrates when agreement and disagreement occur which establishes a level of certainty (Agreement Cells) or uncertainty (Disagreement Cells). In a perfect world, there would only be agreements and no disagreements between the decisions made about regulatory compliance

and the actual state of regulatory compliance. But from experience, this is not the case based upon reliability testing done in the licensing research field in which a decision is made regarding regulatory compliance with a specific rule or regulation and then that is verified by a second observer who generally is considered the measurement standard.

Disagreements raise concerns in general, but the disagreements are of two types: false positives and false negatives. A false positive is when a decision is made that a rule/regulation is out of compliance when it is in compliance. Not a good thing but its twin disagreement is worse where with false negatives it is decided that a rule/regulation is complying when it is out of compliance. False negatives need to be avoided because they place clients at extreme risk, more so than a false positive. False positives should also be avoided but it is more important to deal with the false negatives first before addressing the false positives.

**Table 3: Key Indicator Compliance based upon History and Individual Reviews**

Indicator Compliance (KIM)		Compliance History	
		High Group	Low Group
Individual Review	In Compliance	Medium	Low-False Positive
	Not In Compliance	High-False Negative	Medium

Key indicators are statistical predictor rules which statistically predict overall regulatory compliance. They are the efficient driver of the theory of regulatory compliance where risk assessment rules are the effectiveness driver of the theory. Key indicator rules can be used as focused inspections as if the full set of rules were applied. This is not the case with risk assessment rules because risk assessment rules do not predict, they ensure that the most risk-based rules are always reviewed. Key indicator rules are the predictor rules.

But even though key indicator rules are statistical predictor rules, there are specific cautions with their application. For example, in doing focused reviews, false negatives need to be eliminated or at least reduced substantially. Having false negatives creates a highly negative outcome where the key indicators say that everything is ok when they are not, there are other areas of non-compliance. False positives can also occur (this is where the key indicators say things are not ok when they really are ok, there are no other areas of non-compliance), these are not as critical as the false negatives but should be minimized as best as possible. Key indicator rules are generally of medium non-compliance and medium risk value. They are not like risk assessment rules which are always heavily risk averse and have very low non-compliance rates. The risk is high, but non-compliance is low.

The hope here is to begin to standardize the parameters, logic, and rubrics for measurement related to risk, compliance, and decision making in licensing. By moving to a 2x2 matrix format it should provide some consistency in doing this moving forward.