

Table S1: Traditional taxonomies resume.

Corrupted	Invariant	Name in Moreno-Torres et al. [17]	DAG in Kull and Flach [18]	Ours
at least one among $\{\pi_X, F, E\}$, according to compatibility	π_Y	concept shift when $Y \rightarrow X$	$\begin{array}{c} D \\ \swarrow \\ X \leftarrow Y \end{array}$	subcase of S- \tilde{X}
at least one among $\{\pi_Y, F, E\}$, according to compatibility	π_X	concept shift when $X \rightarrow Y$	$\begin{array}{c} D \\ \searrow \\ X \rightarrow Y \end{array}$	subcase of S- \tilde{Y}
at least π_Y , causing π_X or F to change	E	prior probability shift when $Y \rightarrow X$	$\begin{array}{c} D \\ \searrow \\ X \leftarrow Y \end{array}$	at least S- \tilde{Y} subcase, at most $(2D-\tilde{Y}, 2D-\tilde{X})$
at least π_X , causing π_Y or E to change	F	covariate shift when $X \rightarrow Y$	$\begin{array}{c} D \\ \swarrow \\ X \rightarrow Y \end{array}$	at least S- \tilde{X} subcase, at most $(2D-\tilde{Y}, 2D-\tilde{X})$

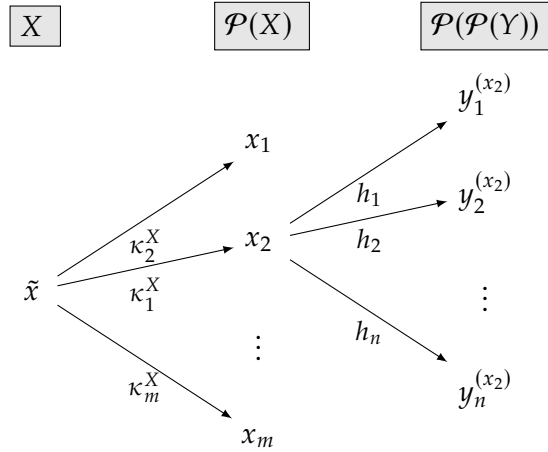


Figure S1: Graphical representation of the push-forward probability measure $\kappa^X h(\tilde{x})$.