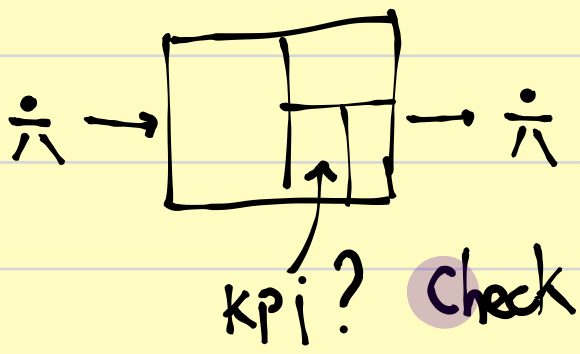
correlation matrix

HKF. Structure.



$$\rho_{Pearson}^{(x,y)} = \frac{cov(x,y)}{\sigma_x \sigma_y}$$

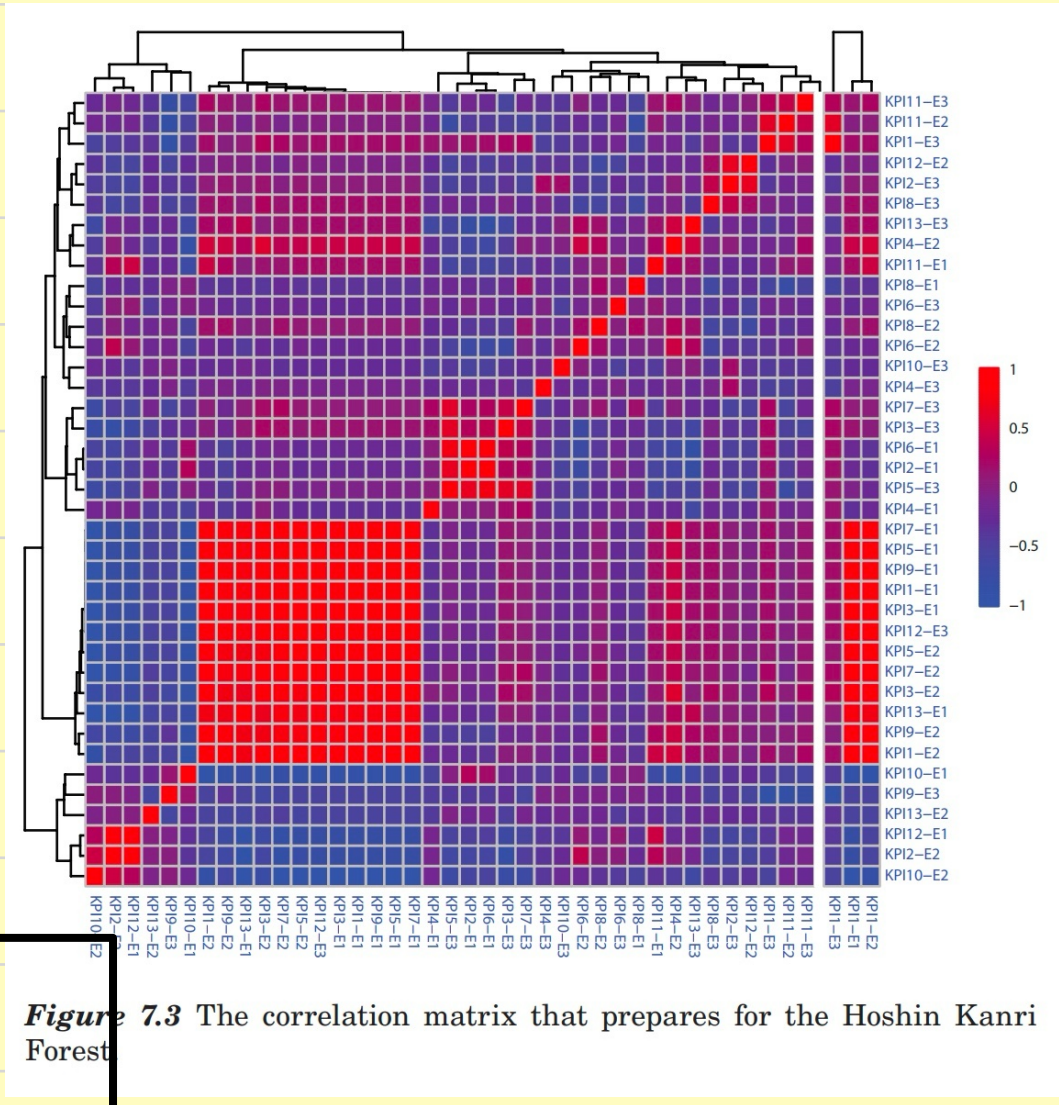


Figure 7.3 The correlation matrix that prepares for the Hoshin Kanri Forest

Management System

	KPI_1	KPI_2	...	KPI_n
t_1	...	...		...
t_2	...	...		...
⋮				
t_m	...	...		...

time series

→ ρ_{KPI_i, KPI_j} (*) → Correlation Matrix

Management Decision given by the board.
(STRATEGIC GOALS)

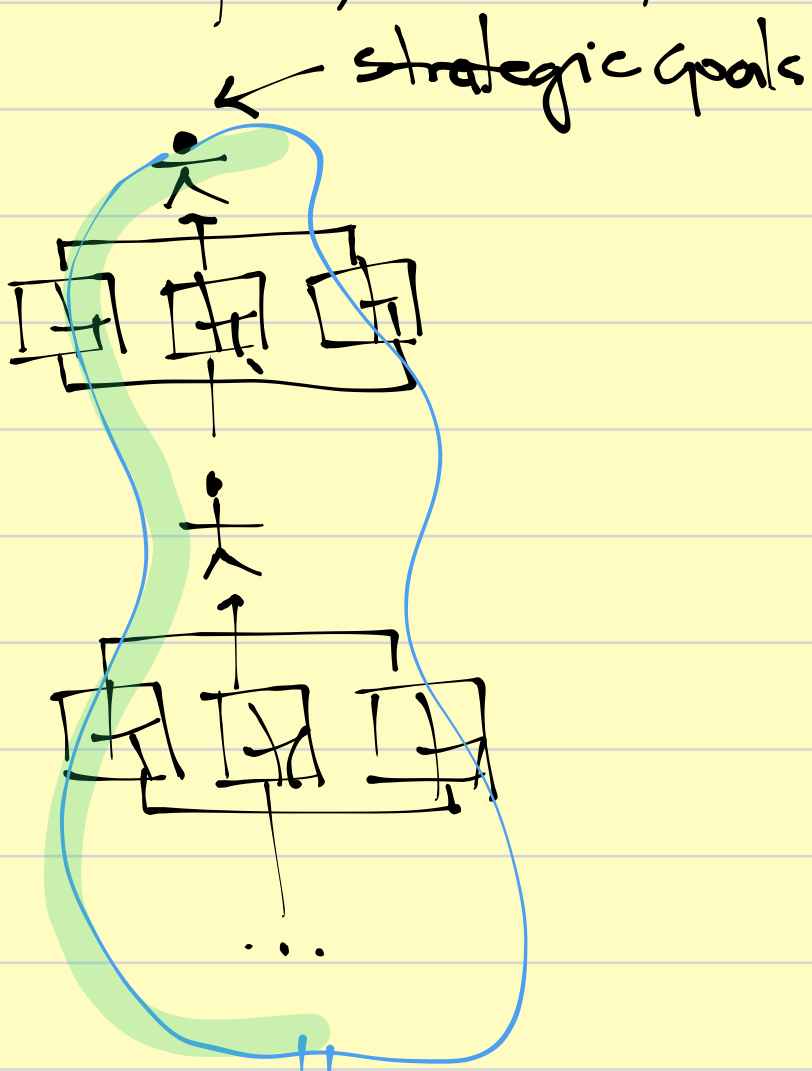
What KPI's correlate highly with the Strategic Goals. Level 1
(3 KPIs Level 1)

What KPI's correlate highly with the level 1 KPIs?
(3 KPIs level 2)

...

(*) we can use other methods for time series analysis.

we can also use methods for highly dimensional analysis:
i.e. Principal Component Analysis, t-SNE, ...



example:	cost (€/unit)	Quality (ppm)	Lead Time (Weeks)
t_1	...	...	...
t_2	...	...	...
t_3	...	...	...
t_4	...	...	...

Given the cost as strategic goal, what would be the KPI to be reported by level 1?

$P_{C.a} \cdot P_{C.LdT} \rightarrow \gg P$ ✓

January 23rd.