**FINANCE PROCESS AUTOMATION WITH NUMBERICAL DECISION MAKING**

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The article will provide an in-depth discussion (\*) on the advantages (\*) of numerical decision making in banking transactions, as well as its differences with binary (logical rule-based) decision making. It will highlight the importance (\*) of using numerical decision making in today's digital age.

Numerical decision making is based on data-driven analyses. On the other hand, binary decision making is a simplified approach of decision making (c.f. circuit diagrams) that only considers two options in general, such as yes or no, pass or fail – like in the classic mathematical logic (c.f. decision trees). Numeric decisions produce fuzzy-like and/or quantum-like interpretation possibilities.

Numerical decision-making is based on the application of mathematical and statistical models (more and more AI-approaches: like similarity analyses – c.f. https://miau.my-x.hu/myx-free/), which allows banks to determine the best (\*) decision based on data.

The advantage of numerical decision making is only realized if the sophisticated weightings (\*) have been properly determined and applied. Checking for this is important to ensure the objectivity (\*) and reliability (\*) of the decision-making process.

The relationship between weighting and correlation (c.f. between the observed phenomena) in numerical decision-making is important. Weighting allows the bank making the decision to give priority to different options. Correlations then show how the different options influence each other.

The decision-maker must re-consider the weightings to ensure that risk management and profitability (\*) are in balance. Even if we want to give equal weights to all options (c.f. attributes or even level of attribute-values), correlations can still help (\*) in decision making by showing how the different options affect each other. Despite equal weighting, there may be a case where one option has a greater impact on the other (\*), and correlations can demonstrate this.

This can be used as useful information in the decision-making process, for example, if one option significantly (\*) affects the other, the bank making the decision should reconsider whether they really want to give equal weights to both options, or if they should weigh them according to the degree of influence.

The keywords with (\*) signs will explain in the full-text-version and in the oral presentation through further details. Asterisks have been set where proofs and/or benchmarking processes should be presented in future.

Demo: <https://miau.my-x.hu/miau/296/risk_index_naive_regression_coco.xlsx>