DIRECTED RISK RESEARCH PROBLEM STATEMENT

Risk Theme	Artificial Intelligence in Risk Management	**Problem Nr.**	PS17005

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PROJECT TITLE: The use and effectiveness of artificial intelligence / machine learning methodologies in risk measurement and decision-making.

PROJECT GOAL:

Developing models that use artificial intelligence / machine learning approaches towards risk research. This includes comparative analysis with more established / traditional methodologies.

HIGH LEVEL DESCRIPTION OF PROBLEM:

There is a need for an investigation into how machine learning methodologies can contribute to a better understanding of financial instruments and products, customer behaviour, pricing etc. It is also important to understand whether any improvement in the accuracy of machine learning models are sufficient to justify any added complexity involved in such modelling. It is furthermore of interest to have a better understanding of a range of machine learning methodologies that are available in the literature – together with development of new methods that are tailor made for the financial industry in South Africa.

PROJECT OBJECTIVES:

Developing models that use artificial intelligence / machine learning approaches towards risk research. This includes comparative analysis with more established / traditional methodologies.

OUTPUTS REQUIRED:

- A paper in the academic financial literature

STRATEGIC VALUE TO DIRECTED RISK RESEARCH:

This research should contribute to a better understanding of the use of machine learning techniques in financial modelling in general, and its application in South Africa in particular.