

Sogesol's Experience With An Alternative Credit Scoring

The EFL Psychometric Model

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Outline

Context

Objective

Implementation phases

Challenges

Model assessment

Positive impacts

Lessons learned

Context

- ❑ In 2012, Sogesol and Entrepreneurial Finance Lab (EFL) teamed up to develop a psychometric model that put emphasis on clients' willingness to pay, their honesty and their business skills.
- ❑ The model was developed and implemented in an environment where a socio-demographic credit scoring has been in use since 2006

OBJECTIVE

Create a hybrid model (socio-demographic/psychometric) to increase the predictive power of the existing credit scoring

Implementation phases

Data collection to test
the EFL global model

Adaptation of this
model to the local
context

Development of a
semi-calibrated and
a calibrated model

Testing of the
psychometric model
alone

Challenges

- ❑ Test duration (up to 120 minutes)
- ❑ Test administered directly on the field by loan officers
 - ❑ Approach deemed inefficient and cumbersome particularly for our clients.
- ❑ Recruitment of dedicated staff to administer the test to the clients in the branch instead
- ❑ Sogesol's request EFL to shorten the length of the test without lessening its worthiness
- ❑ Language complexities issues

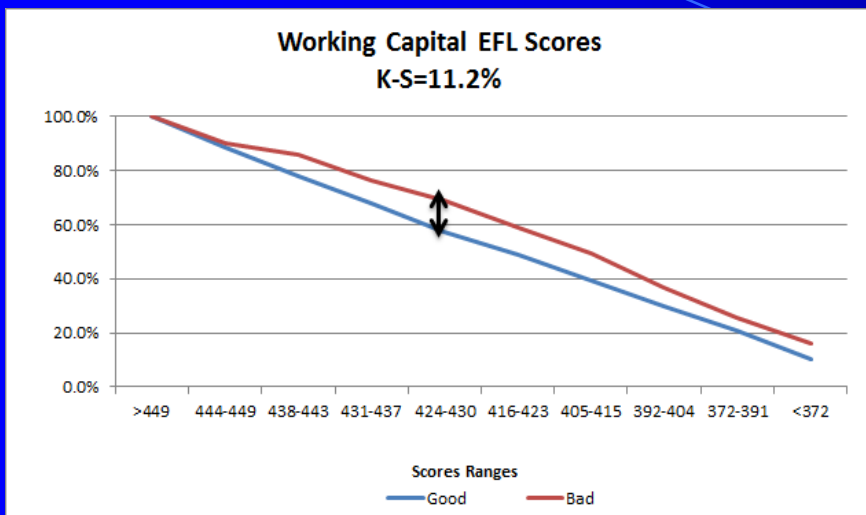
EFL Model assessment

Requirements:

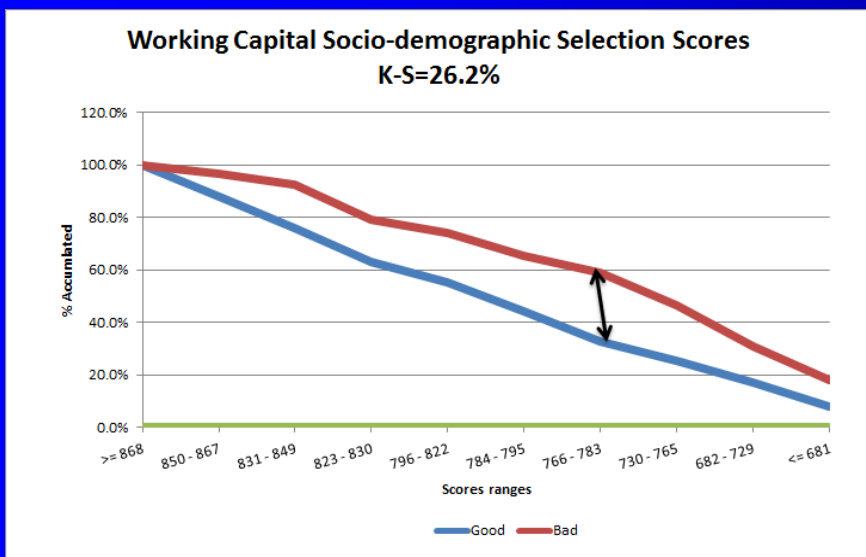
EFL model must be robust and discriminant enough before combining it with the existing model

An explicit condition (Gini Coefficient $\geq 25\%$) included in the 2nd contract authorises Sogesol to terminate the partnership if not met

Assessment's results (Socio-demographic vs psychometric)



Metrics	Psychometric	Socio-demographic	Benchmark	Values range
K-S	11.2%	26.2%	25.0%	[0, 1]
Gini	13.2%	30.3%	33%*	[0, 1]
AUC	56.6%	65.1%	65.0%	[0.5, 1]



☐ Sogesol has found that the psychometric model has:


- no significant difference between good and bad clients
- A low discrimination capability
- Its Gini Coefficient was way lower than the expected one.

Bad Clients: Clients who had more than 30 days late on their previous loan.

*Gini in the 2nd contract $\geq 25\%$

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Positive impacts



Thanks to functionalities integrated in the test, Sogesol has begun to capture GPS coordinates for its clients



Taking into account and assessing client's aptitude and personality traits were very valuable



Lessons learned

The generic model must be adapted to the MFI's environment

The need to find a good tradeoff between test duration and test quality

Images work better than written script for the client's comprehension

MFI staff need to be competent enough to challenge its counterpart particularly in case of outsourcing

To ease impediments in the implementation process, an MFI should be flexible

END