

“Here are my principles and if you don’t like them ... well, I have others”

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Contents

- Scorecard purpose
- What is a “good” scorecard?
- How to “balance” a scorecard
- What to cover at scorecard delivery meetings?
- A challenge to some widely held views
- Summary and conclusions



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Scorecard purpose

Academic use

- Backward looking
- Mistakes are unfortunate
- Focus on academic need
- Concerned with historic facts

Business use

- Must be forward looking
- Mistakes are costly
- Focus on business need
- Concerned with future scenarios

Different types of delegates and speakers => delegates need to filter ideas to suit themselves

Scorecard purpose

Academic use

- Backward looking
- Mistakes are unfortunate
- Focus on academic need
- Concerned with historic facts

Business use

- ~~Must be forward looking~~
- Mistakes are costly
- Focus on business need
- Concerned with future scenarios

“Urban-talk”: IMO = In My Opinion

IMO too many scorecards for business use are designed with little or no focus on forward-looking aspects and not enough understanding of business objectives

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What is a “good” scorecard?

Key criteria for “good” scorecard:

1. Accuracy
2. Reliability
3. Fit for purpose
4. Robustness
5. Integrity

What is a “good” scorecard?

Key criteria for “good” scorecard:

1. Accuracy

- Can be proven on historical data (where available)
- Provides acceptable values for a range of performance statistics (GINI, etc.)
- These statistics need not be the highest possible!

What is a “good” scorecard?

Key criteria for “good” scorecard:

2. **Reliability**

- Performs well on validation samples too
 - OOS, OOT, recent sample

What is a “good” scorecard?

Key criteria for “good” scorecard:

3. **Fit for purpose**

- Business objectives need to be clearly defined
- All aspects of scorecard need to align to business objectives
- E.g. scorecard contents and weights, sample design, performance definitions, development process, implementation processes, monitoring and tracking options, etc.

What is a “good” scorecard?

Key criteria for “good” scorecard:

4. **Robustness**

- Resilient to a range of potential future risk environments
- Score components are “well-balanced” and logical in terms of their values, attribute range, and relative weights
- The scorecard can be expected to perform well for the future

What is a “good” scorecard?

Key criteria for “good” scorecard:

5. Integrity

- All necessary analysis and testing has been undertaken
- All necessary variable generations have been identified and evaluated
- A comprehensive development process has been rigorously followed
- Undertaken by good calibre, experienced personnel

What is a “good” scorecard?

Academic use

1. Accuracy
2. Reliability

Historic facts

Business use

1. Accuracy
2. Reliability
3. Fit for purpose
4. Robustness
5. Integrity

Future scenarios

IMO some scorecard development teams focus too heavily on historic facts and not enough on future scenarios

What is a “good” scorecard?

Academic use

1. Accuracy
2. Reliability

Historic facts

Business use

1. Accuracy
2. Reliability
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Future scenarios

IMO some governance and oversight functions are geared to finding “good” academic scorecards

What is a “good” scorecard?

Academic use

1. Accuracy
2. Reliability

Historic facts

Business use

1. Accuracy
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Future scenarios

IMO developing scorecards for business use is not about building the best scorecard on past data, but about building the best score for future data

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How to “balance” a scorecard

Critique the scorecard in terms of its variables, their attributes and relative weights. E.g.

- Does it span the risk drivers?
- Does it span the data?
- Is it specific to your market and business objectives?
- Does it make logical sense?
- What are the sensitivities to market or policy changes?
- Will it pass your governance and oversight criteria?
- How might it work on typical customer profiles?
- Does it overcome previous shortcomings?

How to “balance” a scorecard

Critique the scorecard in terms of its variables, their attributes and relative weights. E.g.

- **Does it span the risk drivers?**
 - Previous arrears/performance indicators
 - Customer stability
 - Capability to repay
 - Capacity to repay
 - Collateral
 - Loan relevance

How to “balance” a scorecard

Critique the scorecard in terms of its variables, their attributes and relative weights. E.g.

- **Does it span the data?**
 - Arrears history variables
 - Count, value, size, and time since variables
 - Maximum values, minimum values, average values
 - Latest values, worst ever values, trend variables
 - Variables measured over long, medium, and short-terms
 - Linked account data
 - Product features
 - 3rd party data

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What to cover at score delivery?

- That the scorecard covers the key components necessary for a “good” scorecard
 1. Accuracy
 2. Reliability
 3. Fit for purpose
 4. Robustness
 5. Integrity
- Critique the scorecard i.e. Is it well-balanced?
- Ask how the developers have varied their standard development approach to meet the specific needs of your project

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A challenge to widely held views

- Is the best scorecard the one with the highest GINI?
- Does the past predict the future?
- Are logistic scorecards better than linear regression scorecards?

Using linear models

- To “manage” the contents and weightings of a scorecard without significant loss in power
 - By using a “multi-staged” regression
 - Allocate scoring candidates variables into priority groups
 - Regress 1st group against performance variable
 - Regress 2nd group against residuals from previous regression
 - ... and so on

Using linear models

- Some practical applications of multi-staged regression
 - When some score variables are overwhelming. E.g. % deposit, LTV
 - When some variables should be useful but still “immature”
 - When some variables are useful but costly
 - When there’s uncertainty on your future 3rd party data provider
 - For master/slave applications
 - To minimise the reliance on some variables and maximise the importance of others

IMO linear scorecards can lead to more robust and durable solutions

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Summary and conclusions

- There are key differences between academic scorecards and scorecards designed for business applications
 - Build academic scorecards to give unbiased results from **historic data**
 - Build business scorecards to make the best decisions on your **future data**
- Robustness is critical when building business scorecards
- Challenge your scorecard providers
- Balance your scorecards
- Linear scorecards have useful advantages - don't rule them out altogether

“Here are my *opinions* and if you don’t like them ... well, I have others”

Thank you 😊



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