



Effectively Deploying Analytics to Support Collections

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- 30-strong consultancy company based in London and Leeds
- Formed 6 years ago by a team of risk management experts
- Combine analytics with strong practitioner experience
- Provide innovative solutions which deliver real value

Some of Our Customers

Lenders



DCA's and Debt Purchasers



Private Equity and Funds



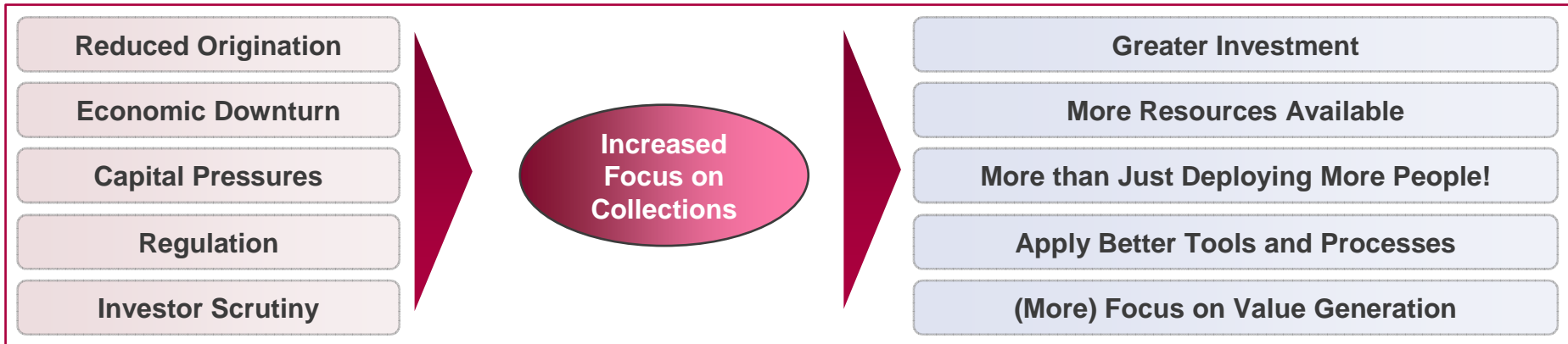
Collections Analytics

- Since the nationalisation, Euristix have been **responsible for the credit risk analytics for Bradford and Bingley** on an outsourced basis
- We have worked with **collections and recoveries departments in lenders** of all sizes
- Extensive experience **supporting the most analytically focussed DP and DCA businesses**

Increasing Focus on Collections

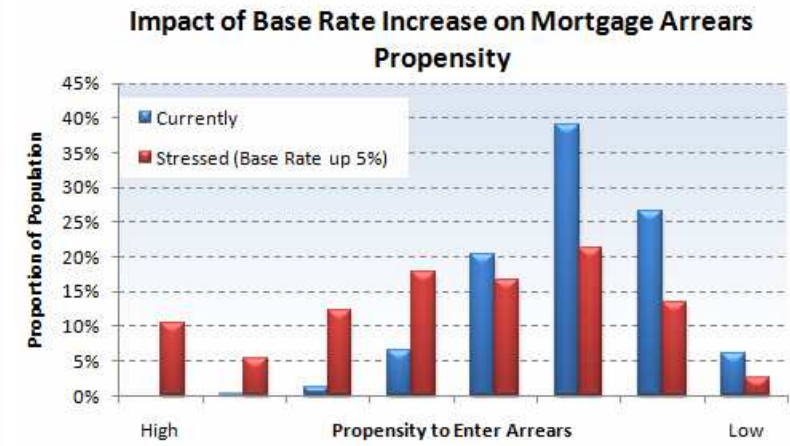
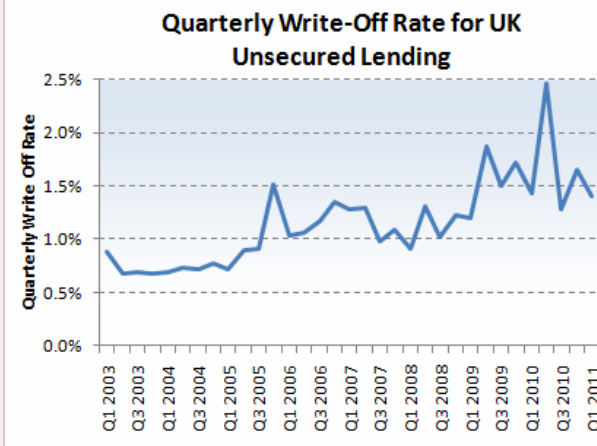
Increasing Focus on Collections

- In the last 5 years, the sophistication of collections has increased considerably
- Collections and recoveries has evolved from a basic back-room process to a key business function that can drive real value for a business



Future Arrears

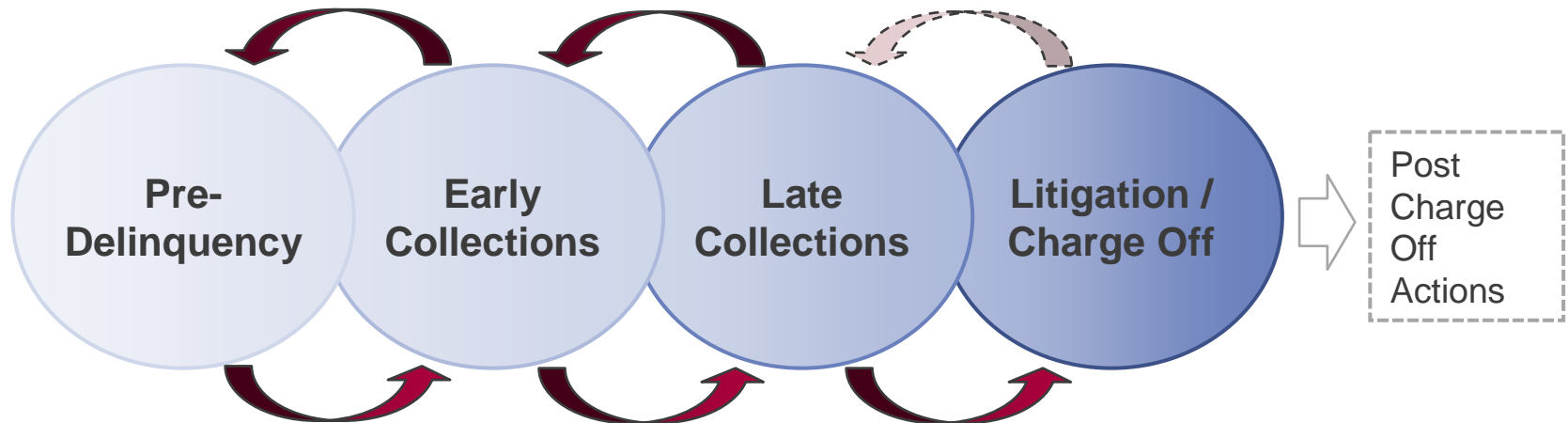
- Unsecured lenders have already suffered high write-offs in the downturn
- Low interest rates have protected many borrowers (and mortgage lenders) from the worst effects
- But interest rate rises remain a spectre on the horizon...



Collections Lifecycle

The Collections Lifecycle

- Collections and recoveries activities are made up of a number of distinct but highly interconnected phases
- Optimising this entire 'lifecycle' is they key to successful collections

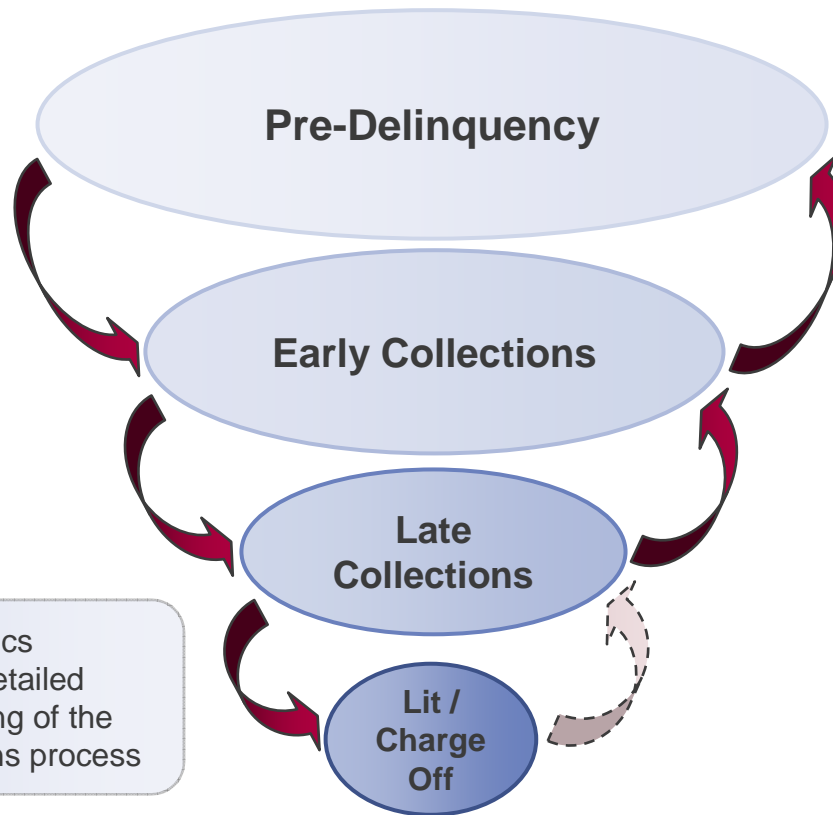


Principle Aims	Avoid Arrears , or ease transition process	Rehabilitate , and prevent escalation	Recovery of the outstanding value	Damage Limitation and crystallisation of losses	Enforcement Possession Debt Sale
Arrears	Up to Date	0 – 60 Days	60 – 180 Days	180+ Days	
Main Considerations	<ul style="list-style-type: none"> • Customer Service • Brand Protection • Roll Rates 	<ul style="list-style-type: none"> • Customer Service • Brand Protection • Roll Rates / EL • Compliance 	<ul style="list-style-type: none"> • Brand Protection • Expected Loss • Compliance 	<ul style="list-style-type: none"> • Mitigate Loss • Compliance 	

The Role of Analytics

- As the approach to collections has become more advanced, the role of analytics has grown
- Many of the tools from early in the credit lifecycle are now commonly used in collections and recoveries, but it is important not to blindly apply techniques

The Collections Waterfall



Good analytics requires a detailed understanding of the full collections process

A Standard Analytics Approach

Collections Waterfall

Understand how accounts flow through the collections process

Initial Analysis

Identify the key behaviours and performance drivers

Segmentation and Modelling

Design and build the required analytical tools

Implementation

Install the process to leverage the power and benefit of the analytics

Monitoring

Ensure the process remains robust, up to date and challenged


Use Appropriate Tools

Understand the Business Problem

- It is always tempting to apply the most sophisticated and powerful techniques in any situation where analytics is required...
- ...But it is vital to consider the process that the analytical tools are supporting

Multivariate Statistical Models


(e.g. Scorecards)



- ✓ Utilise powerful statistical techniques
- ✓ Summarise multiple characteristics into a single metric
- ✓ Objective assessment of data
- ✓ Automated aspects to the model creation and maintenance
- ✗ Can be hard to unpick drivers in individual cases
- ✗ Higher requirement for appropriate empirical data

Simple Segmentations and Rule Sets

(e.g. Decision Trees, Trigger Events)



- ✓ Highly transparent
- ✓ Easy to incorporate business insight and expert knowledge
- ✓ Trigger or segment can actually suggest mitigating action
- ✓ Can quickly be adjusted to capture specific stimuli
- ✗ Requires a high level of management and monitoring
- ✗ Lacks power of statistical models

Ideal for...

- Prioritising internal activities
- High volume, data rich decisioning

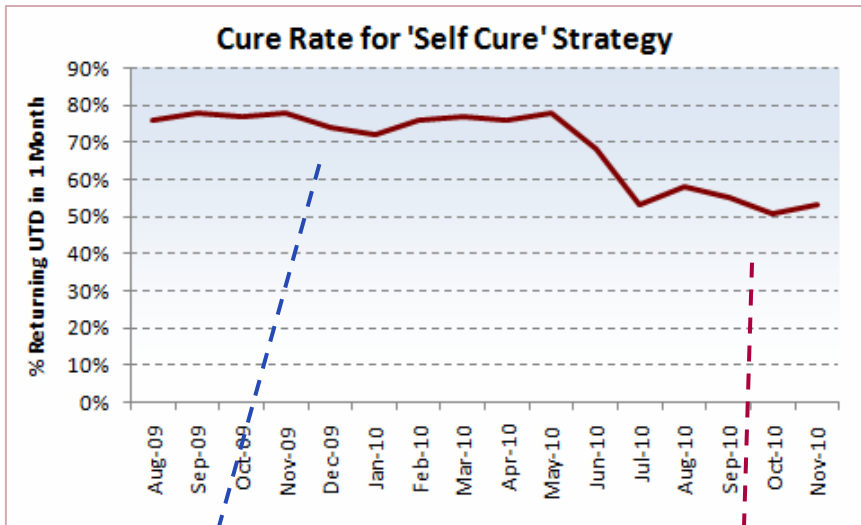
Ideal for...

- Informing customer contacts and conversations
- Quickly incorporating specific stimuli into processes

Case Study 1 – Drop in ‘Self Cure’ Rates

Case Study 1

- A collections department were running a relatively new ‘self-cure’ strategy driven by a simple propensity to cure model
- Results were good until the process suddenly appeared to deteriorate...



Self-Cure Strategy

- Implemented by the lender in mid-2009 for new flow into arrears
- Driven by a ‘Propensity to Cure’ scorecard to identify qualifying accounts
- Designed to reduce costs and resource requirements in early collections
- Allow customers a period of time to return to up to date before full collections activity begins
- A simple report in place to track success

Initial results were good...

The model performed well, with the cure rate of around 75% in line with expectations

... But a problem arose

Less than 12 months after implementation, the performance of accounts identified for ‘self cure’ dropped off significantly

“The model isn’t working anymore!!”

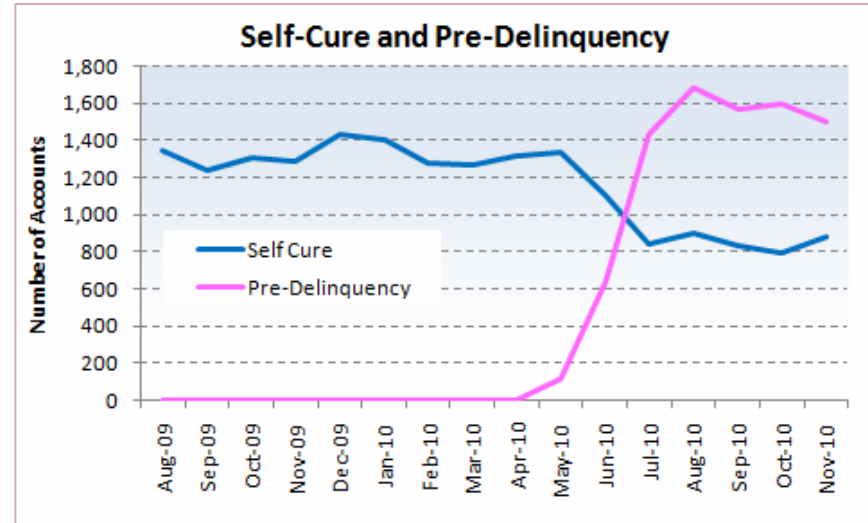
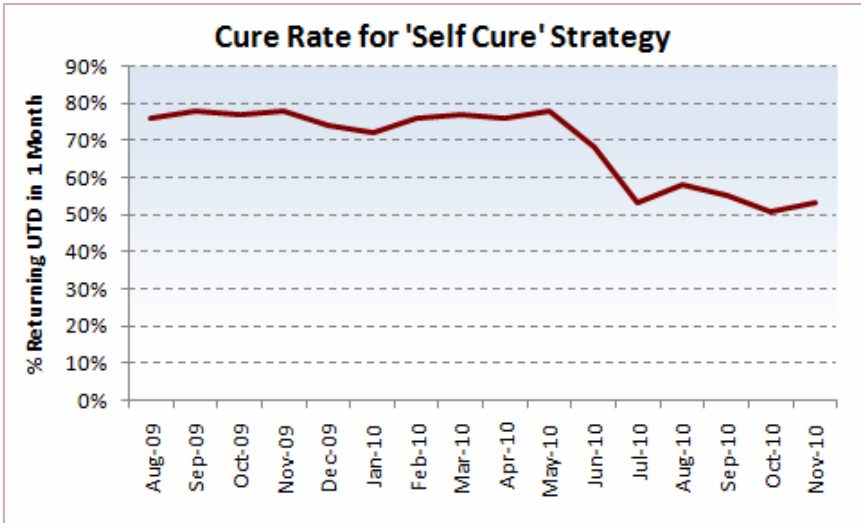
“Quick, change the strategy!”

“We need to redevelop straight away...”

Case Study 1 – Drop in ‘Self Cure’ Rates

Case Study 1

- A collections department were running a relatively new ‘self-cure’ strategy driven by a simple propensity to cure model
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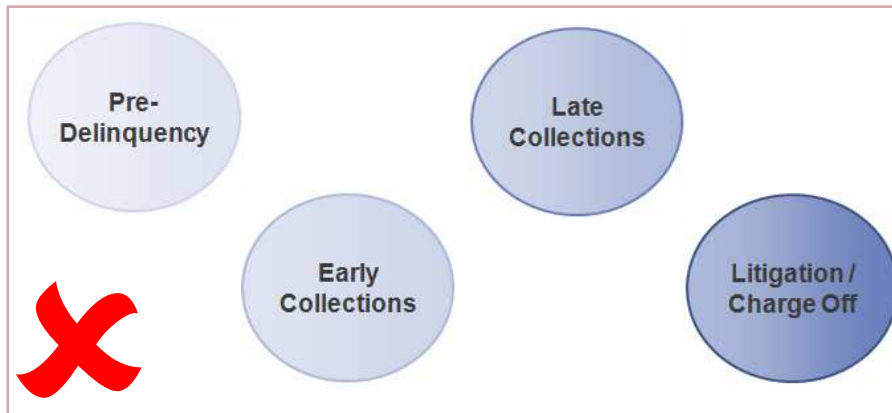
But...

- The business introduced a **pre-delinquency strategy** in May 2010
- This process was designed to reduce flow to arrears for susceptible accounts
- Accounts with a high propensity to self cure were also most likely to respond to the pre-delinquency actions
- This reduced the number entering self-cure strategy...
- ... and reduced the self-cure rate for those that did still enter

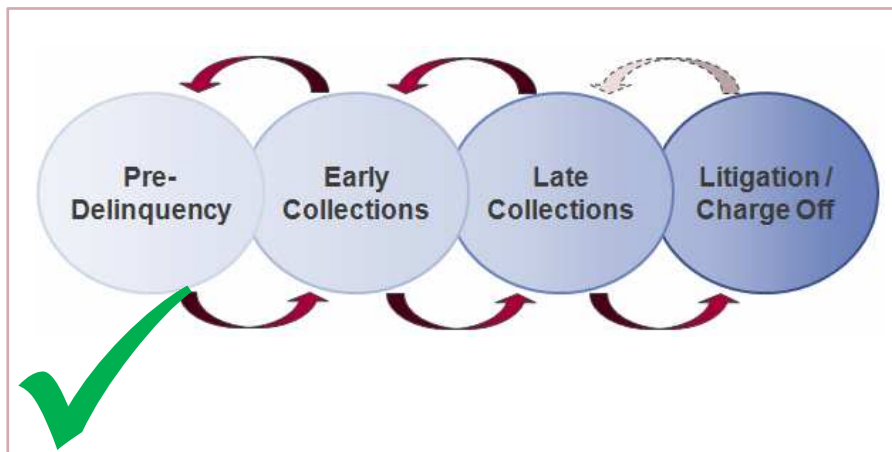
Case Study 1 – Key Message

Key Message

- **Avoid compartmentalising!**
- The phases of collections are clearly highly connected and problems can arise if the business loses sight of the full process



- The business in the previous example fell into a common trap – over-compartmentalising the collections process
- Elements of the process are often owned and managed by different teams
- But treating each stage in isolation can make it difficult to understand the value of the process
- Changes in one component can have large impacts further down the process

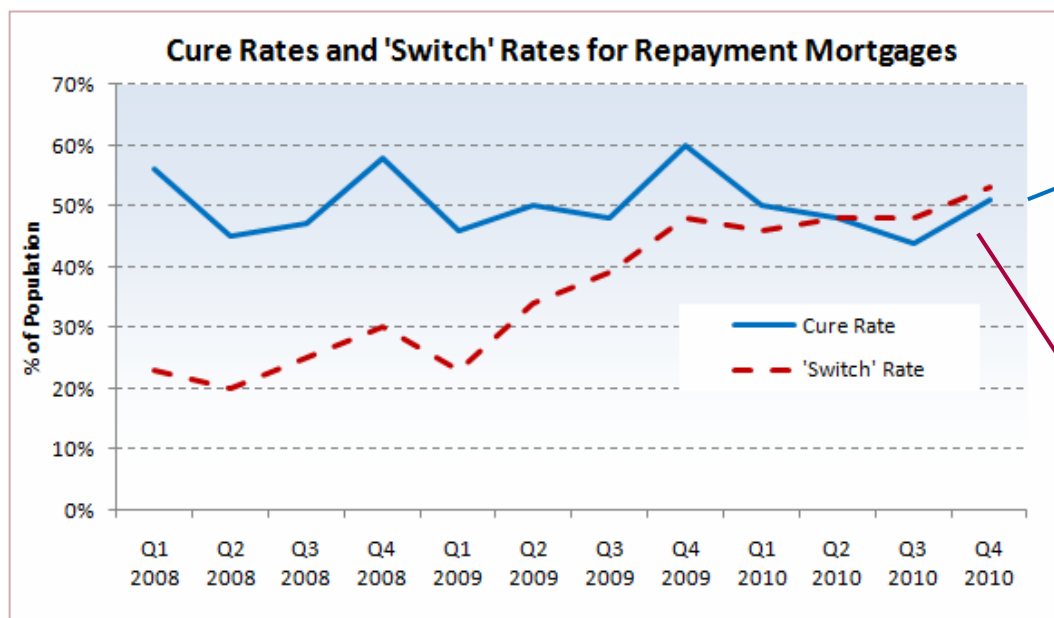


- The aims and treatments in each phase will, and should, differ
- But the process needs to be managed to maximise the full end-to-end value
- Analytics needs to be done with broad communication and a clear view on possible down-stream impacts
- Additionally, changes to other business processes (marketing, underwriting, customer management) will all have a potential impact on collections processes

Case Study 2 – Is Lower Arrears Always Better?

Case Study 2

- This particular mortgage lender has a collections team which is heavily focussed on reducing arrears rates and improving cure rates
- They are targeted, assessed and incentivised against these metrics



- Despite the difficult economic conditions, cure rates on repayment mortgages entering arrears were stable
- Gave confidence that collections was being well controlled and delivering as required

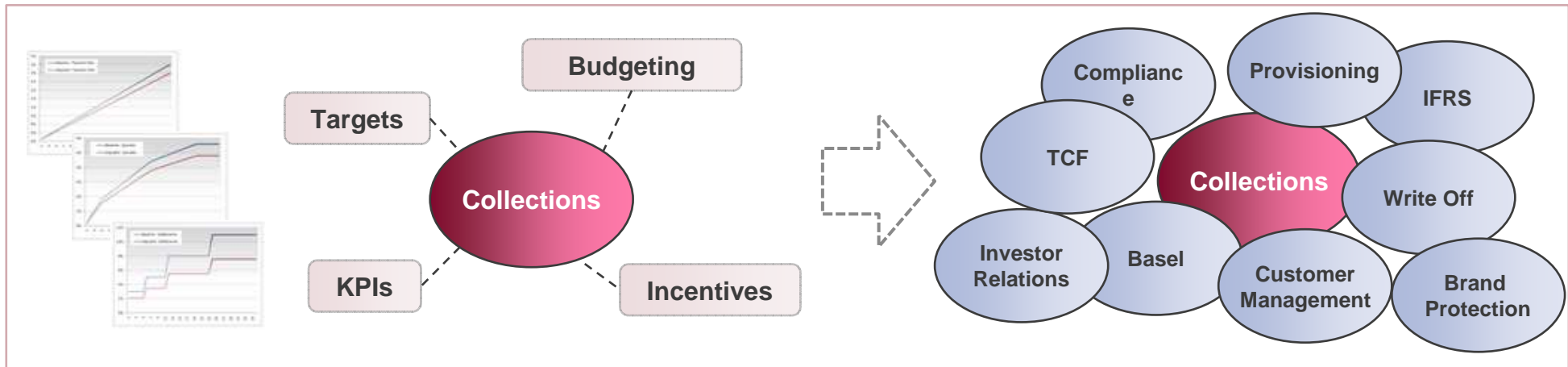
- However, one mechanism used to engineer the cures was a switch to an interest-only mortgage deal
- The rate at which this tool was being used by the collections team was increasing

BUT!

- **This is a huge lever to pull** in terms of the potential risk and loss profile of a mortgage portfolio!
- Moving accounts to interest-only deals could be masking long-term issues and causing **significant shifts in the EAD profile** for the portfolio
- **Similar concerns surround any forbearance processes** (e.g. 're-aging') in unsecured lending

Key Message 1

- **Understand the Full Impact of Actions!**
- Targeting and focussing on a small number of process specific metrics can lead to behaviours that look 'good' for collections but are bad for the business



Optimising Collections...

- The collections function needs to be monitored and controlled – key KPIs, targets etc.
- Collections analytics should support the setting of these targets...
- ... And then help optimise the processes to achieve them

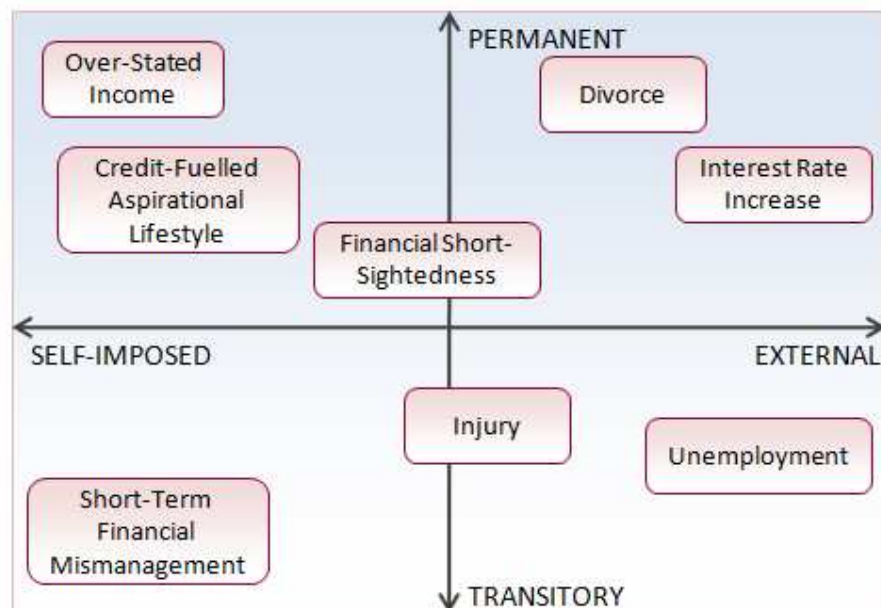
.... While Protecting the Wider Business

- Collections activities will impact a huge number of components of the business
- Actions cannot be taken blindly in collections just to 'improve the numbers' or 'hit the targets'
- It is important to understand the true value and impacts of the collections processes

Case Study 2 – Key Message 2

Key Message 2

- Identify the Drivers for Arrears!
- It is only possible to optimise the collections strategies applied to a customer if the reasons underpinning their performance are clear



Permanent vs Transitory

- Historically, lifestyle shocks (divorce, unemployment etc.) have been the biggest trigger of arrears
- For temporary problems, measures which provide a brief reduction of affordability stress can work well
- These are not appropriate for (semi-) permanent shocks such as interest rate increases

Self Imposed vs External

- The source of the difficulty can be important when considering possible treatments
- Consideration of compliance, reputation and TCF factors

The Place for Analytics

- This area is largely a customer management activity but analytics has a role
- Account level economic modelling and susceptibility analysis can help understand whether a customer's circumstances will improve in time
- Affordability models on I&E data and bureau information can separate the 'can't pays' from the 'won't pays'

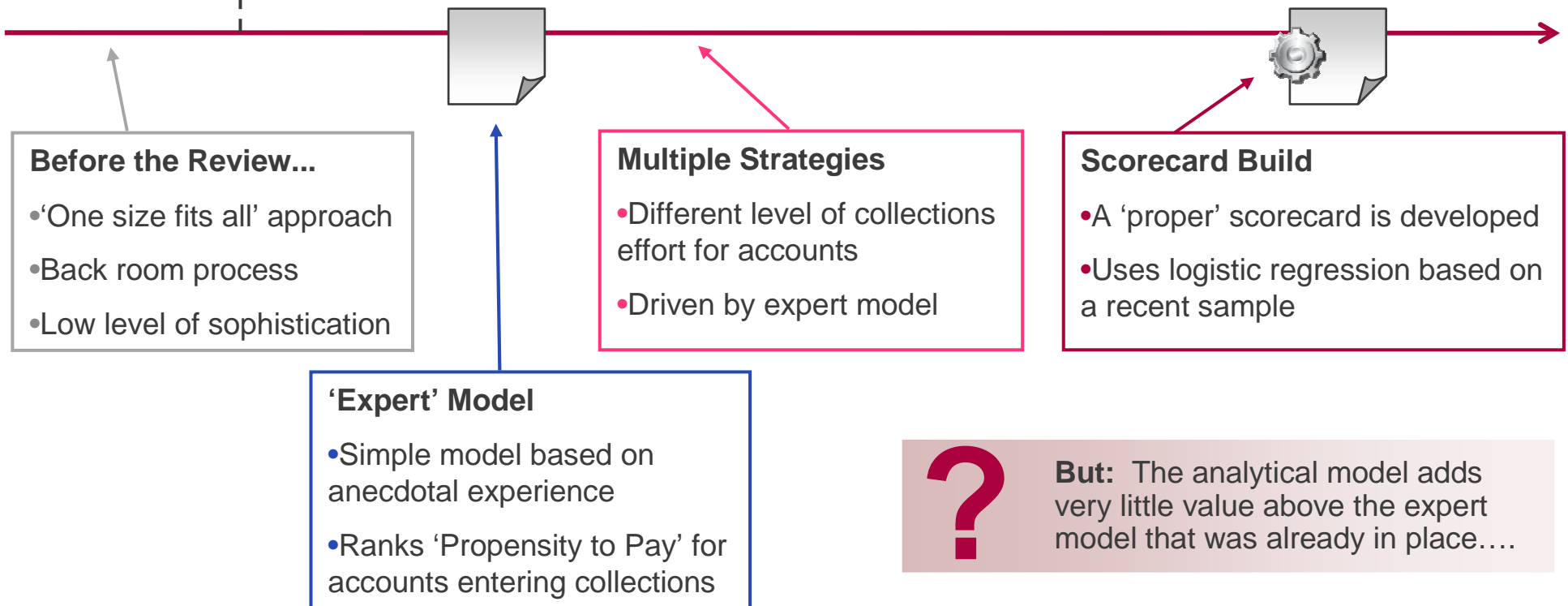
Case Study 3 – A Self-Fulfilling Prophecy

Case Study 3

- A lender made a decision to increase the level of sophistication in the collections function
- Some simple tools were put in place quickly while an analytics team was built up to support the new, more complex processes

Collections Review

- Decision to Invest
- Introduce differentiated strategy
- Build analytics



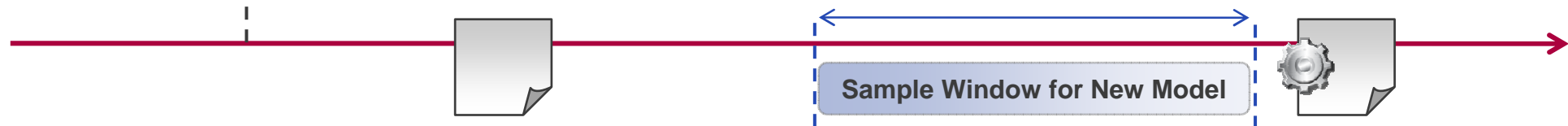
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This is a self-fulfilling prophecy!

- To make the data as relevant as possible, the analytics team took the most recent sample that they could, which fell *after* the introduction of different strategies based on the expert model
- Accounts identified as highly likely to pay by the expert model were worked harder in this period and unsurprisingly showed good payment performance
- Note that it is not claimed that this was a wise strategy!
- The data on which the new model was developed had a high level of bias introduced by the existing process

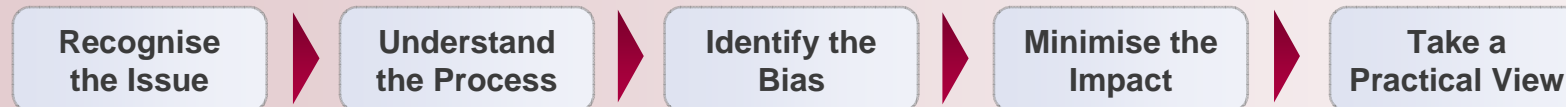
But...

Case Study 3 – Key Message

Key Message

- **Historic processes will have significant impact!**
- The activities and analytics that have previously been in place can be very difficult to unpick and can introduce a high level of bias

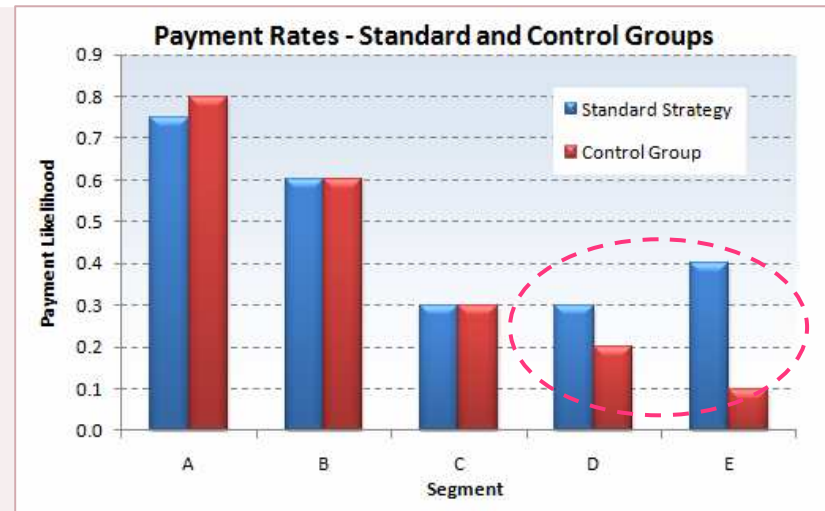
- This is one of the single most difficult aspects of optimising collections!
- ‘Clean’ data, untainted by previous collections processes and decisions, is almost impossible to find
- Developing collections analytics is a process of identifying this and minimising the impact:



- It is important to remember that the analytics is supporting a business process – be practical and realistic

Our Own Worst Enemies...

- In collections, more than in nearly any other area, we build models to identify behaviours and then expend our energies on changing that behaviour
- In other words we try very hard to break our models!
- This example shows the results of stronger collections activity on segments of accounts with poor payment propensity
- This makes it very difficult to evaluate and monitor the analytical processes that are in place



Champion / Challenger

- The use of champion / challenger testing and control groups can be a powerful tool
- It is one of the key practical methods to assess the performance of collections processes and understand the potential for uplift and optimisation

Champion Strategy

- The current strategy within the business
- This is the currently accepted 'best' strategy
- The majority of accounts follow this

Challenger Strategies

- A *small number* of alternative strategies
- These may add value on certain segment or certain processes
- Enough accounts are required to make robust inferences

Control Group

- This group receive identical treatments, usually a 'base' or default strategy
- Control groups are usually designed with specific analytical applications in mind

Pros

- ✓ Can drive a **constant cycle of improvement**
- ✓ 'Real world' **assessment of impacts** of process changes
- ✓ **Measure the 'value add'** of collections activities even in deteriorating or changing conditions
- ✓ **Can produce relatively clean data** for analytics and modelling
- ✓ **Low risk implementations** for new processes

Cons

- ✗ **Lost value** from intentionally using sub-optimal strategies
- ✗ Can still be **difficult to calculate the true value** of changes
- ✗ **Requires discipline** and care to get robust and usable results
- ✗ Needs very careful design and has **implementation overheads**
- ✗ **Reactive** – requires processes to be run before conclusions can be drawn

Summary – Five ‘Do’s and ‘Don’t’s of Collections Analytics

Collections Analytics

- Collections will continue to be a key area of focus in the near future, and analytics has a huge role to play in the success of this business function
- But collections analytics is a complex area that requires real thought and care to add value

Collections Analytics Should...

1. Support the aims of each phase of the collections lifecycle
2. Solve a real business problem
3. Underpin decisioning, forecasting, tracking and problem resolution
4. Use appropriate tools for the problem in hand
5. Add genuine value to the business

Collections Analytics Should NOT...

1. Add undue complexity
2. Be over-compartmentalised
3. Lose sight of the full impact of any changes
4. Be undertaken as an academic exercise divorced from real processes
5. Ever be considered complete!