

DATA STORYTELLING WORKSHOP | DAY 2 CASE STUDY

Fast Money, Hidden Risk

Bank Harmoni Berhad: the InstantCash Personal Financing story. Participant Guide & Step-by-Step Instructions

Item	Details
Case department	Retail Credit (Personal Financing), with Digital Banking, Risk, Sales and Finance as stakeholders
Your role	Senior Analyst, Retail Credit Portfolio Analytics
Data file	BankHarmoni_RetailCredit_CaseData.xlsx (4 sheets, 7,519 application records)
Team size	4 to 5 people. Mix departments in each team (credit, risk, sales, HR, ops, analytics)
Time	About 3 hours of team work + 5-minute presentation per team
Framework	D-S-V: Data first, then Story, then Visual. Follow the sequence; do not open a chart tool before Step 8.
Note	All data is synthetic and the bank is fictional. It is modelled on a typical Malaysian retail bank so that it feels familiar.

1. The situation

It is late September 2026. You work in the Retail Credit Portfolio Analytics team at **Bank Harmoni Berhad**, a mid-sized Malaysian retail bank. On Monday morning, this email lands in your inbox:

From: Puan Aisyah Rahman, Head of Retail Credit

Subject: InstantCash, I need the real picture before RCC

Hi team,

At the Retail Credit Committee on **Thursday 8 October** we have two big decisions. Daniel (Digital Banking) wants to extend the InstantCash auto-approval rules to **Credit Cards**, and Priya wants us to endorse a **+25% Personal Financing growth plan for FY2027**.

Everyone is celebrating InstantCash, and the volume numbers look great. But I have heard some worrying comments from Collections. Before I put my name to either decision, I want to know: **is InstantCash growing healthily or not?**

You have a **10-minute slot** at RCC. Don't give me 40 slides of tables. Tell me what is happening, why it matters, and what you want the committee to decide.

Thanks, Aisyah

Why this case matters to you, whatever your department

Every department in the room faces the same tension this case is built on: **growth versus quality**. Sales Performance teams chase volume, Risk teams guard quality, Channel and Digital teams push speed, HR and Ops teams balance headcount against service levels. The skill you are practising (turning a spreadsheet into a clear, honest story that drives a decision) transfers directly to your own reports on Monday.

Key people at the RCC meeting

Person	Role	What we know about them
Puan Aisyah Rahman	Head of Retail Credit, RCC Chair	Decision maker. Cautious, data-driven, accountable to the Board for risk appetite. Wants a clear recommendation.
Mr. Daniel Lim	Head of Digital Banking	Sponsor of InstantCash and the Aug 2025 "Frictionless Onboarding" change. Proud of the growth. Likely to defend the app.
Encik Hafiz Kamal	Chief Risk Officer delegate	Watches risk appetite limits, NPL and provisions. Will ask about data quality and definitions.
Ms. Priya Nair	Head of Consumer Finance	Owns the P&L and the FY2027 growth target. Cares about revenue, cost and market share.

2. What you have

Sheet	What is inside	How to use it
README	Case summary and sheet guide	Read first (2 minutes)
Loan_Applications	7,519 rows, one per PF application, Jan 2024 to Jun 2026. Performance measured at snapshot date 31 Aug 2026	Your raw data. Audit it, then pivot it
Data_Dictionary	Meaning of every column + key definitions (DPD, MOB, vintage, early delinquency rate)	Keep it open while you work
Business_Context	Policy change log, campaign calendar, risk appetite, targets, cost & loss assumptions, meeting details	This is your "context". Many insights only make sense against it

Three terms you must understand before you start

DPD (Days Past Due): how late a customer is on a payment. 30+ DPD is an early warning; 90+ DPD is a non-performing loan (NPL).

MOB (Months on Book): how long since the loan was disbursed. A loan disbursed in May 2026 is only 3 months old at the snapshot date, so we cannot yet know its month-6 behaviour.

Early delinquency rate (MOB6 30+): of loans that are at least 6 months old, what % reached 30+ DPD by month 6. The Board limit (risk appetite) is **4.0%**.

3. Your deliverables

#	Deliverable	Produced in
D1	Data Audit Log: issues found and how you fixed them	Step 2
D2	At least 3 insights written with the Insight Formula	Steps 4 to 6
D3	Story Space decision: which insights go into the story and which do not	Step 7
D4	3C Story Canvas: Crowd, Content (S.T.O.R.Y.), Core (Main Point + Big Idea)	Step 8
D5	AI-assisted visual recommendation + at least 1 finished chart with a takeaway title	Step 9
D6	3 to 5 slide storyboard and a 5-minute RCC pitch	Step 10

Suggested timing

Block	Steps	Time
DATA: understand and prepare	Steps 1 to 3	40 min
DATA: mine the insights	Steps 4 to 6	50 min
STORY: select and structure	Steps 7 to 8	40 min
VISUAL: design with AI	Step 9	30 min
Build storyboard and rehearse	Step 10	20 min
Team presentations + feedback	-	5 min + 3 min Q&A per team

PART A | DATA: the 5-Step Insight Mining Framework

Step 1. Understand the context

Before touching the data, understand the question. Read the email, the people table and the **Business_Context** sheet, then answer these as a team:

1. Who is asking, and what decision will they make with our work?
2. When is the decision, and how much time will we get?
3. Which KPI does the decision maker care about most? (Hint: look at the risk appetite table.)
4. What changed in the business during this period? List every event from the policy log with its date.
5. What would "healthy growth" look like? What would "unhealthy growth" look like?

Output of Step 1

Write **one sentence**: "The question we are answering is _____ so that RCC can decide _____."

Step 2. Audit the data

Raw extracts are rarely clean. This one has been deliberately left messy. **There are at least 5 different types of problems hidden in the Loan_Applications sheet.** Find them, decide what to do, and record your decisions: an analyst who cannot explain their data cleaning will lose the room when the CRO delegate asks "how did you get this number?"

Check	How to do it in Excel	What we found	Action taken
Duplicate records	Data > Remove Duplicates (copy the sheet first), or COUNTIF on application_id		
Inconsistent category labels	Filter drop-down on channel, segment, region: look for spelling / case variations		
Missing values	Filter each column for (Blanks)		
Impossible or extreme values	Sort min to max on age, income, DSR, loan amount		
Outcomes not yet observable	Filter status_mob6 and status_mob3: what does "Not yet observable" mean for your calculations?		
Anything else?	Scan dates, rates, turnaround hours		

Tip: Do not delete records you are unsure about. Add a helper column "include_flag" (1 = use, 0 = exclude) so you can explain your choices.

Step 3. Build the foundation

Create a "portfolio at a glance" baseline before hunting for patterns. Agree the definitions first so every team member calculates the same thing.

Metric	Definition	Suggested pivot
Applications	Count of unique application_id	Rows: year (or half-year)
Approval rate	Approved / all applications	Rows: year; Columns: decision
Bookings	Count and sum of loan_amount_rm where decision = Approved	Rows: half-year; Columns: channel
Channel mix	Share of approved loans by channel	Show values as % of row total

Metric	Definition	Suggested pivot
Speed	Median turnaround_hours (approved loans)	Rows: half-year; Columns: channel
Early delinquency rate	Loans with status_mob6 = 30+ DPD or 90+ DPD / loans where status_mob6 is NOT "Not yet observable"	Rows: booking quarter; Columns: channel
Early NPL rate	status_mob6 = 90+ DPD / seasoned loans (same denominator)	As above

Helpful helper columns (add to the right of the data)

- **book_qtr:** =YEAR(B2)&"-Q"&ROUNDUP(MONTH(B2)/3,0)
- **seasoned6:** =IF(T2="Not yet observable",0,1) (use only approved loans)
- **bad6:** =IF(OR(T2="30+ DPD",T2="90+ DPD"),1,0)
- **dsr_band:** =IF(I2<=40,"a")<=40%,IF(I2<=60,"b") 40-60%,"c")>60%))
- **score_band:** =IF(J2<620,"Low <620",IF(J2<=720,"Mid 620-720","High >720"))

Early delinquency rate in a pivot = SUM of bad6 / SUM of seasoned6 (filter decision = Approved and seasoned6 = 1).

Column letters assume the original column order; check yours after inserting columns.

Step 4. Hunt for patterns using the SCAN method

Now look for the “interesting”. Work through all four SCAN lenses, and write down every observation, even the boring ones. You will filter later.

Lens	What you look for	Example (general)	Where to look in this case
S Spikes / Drops	Sudden changes	"March revenue jumped 45%: new product launch effect"	Metrics by book_qtr or half-year: bookings, channel mix, decision time, early delinquency. Line jumps up with the policy log dates
C Comparisons	vs. last year, vs. target, vs. others	"Region A grew 30% while Region B declined 15%"	InstantCash vs other channels; before vs after Aug 2025; actual vs 4% risk appetite; segment vs segment; DSR band; income_verified Y vs N
A Anomalies	Outliers, unexpected behaviour	"Product X sells 80% on weekends only"	Groups far above the limit; the campaign cohort; unusually high or low groups in a segment, score or DSR slice
N No-change	Where you expected change but did not see it	"Despite a 20% price increase, demand stayed flat: inelastic"	Did the approval rate rise after the DSR cap was raised? Did the app's customer mix change? Did other channels' delinquency move?

Tip: slice every metric by channel, customer_segment, region, dsr_band, income_verified, score_band and book_qtr. A flat total often hides groups moving in opposite directions.

SCAN worksheet (record at least 6 observations)

#	Lens	Observation (number + comparison)	Surprising? (Y/N)
1			
2			
3			
4			
5			
6			

Step 5. Validate and refine

Before you believe a pattern, try to break it. Every insight that survives these checks becomes much harder for a sceptical committee member to dismiss.

- **Seasoning check:** did you only use loans that are old enough to be measured? (Counting young loans as "good" makes risk look lower than it is.)
- **Mix check:** is a difference real, or caused by a different mix of customers or channels? Slice the same metric within each channel to test it.
- **Sample size check:** is the group big enough? Treat groups under ~50 seasoned loans as "directional only".
- **Timing check:** does the change line up with an event in the policy log? Does the pattern appear in one channel only, or everywhere?
- **Second-metric check:** does another measure tell the same story (e.g., MOB3 30+, current_status, 90+ DPD)?
- **Cause check:** are you claiming correlation or causation? Say which, honestly.
- **So-what check:** would Puan Aisyah care? If not, it is an observation, not an insight.

Step 6. Write your insights with the Insight Formula

The Insight Formula

[WHAT happened] + [WHY it matters] + [WHAT to do about it]

WHAT = a specific, quantified observation with a comparison. WHY = the consequence for THIS audience (money, risk, customers, reputation, targets). WHAT TO DO = a specific, owned, time-bound action.

Example from a different domain (not the case answer):

Weak	Strong
"Fixed deposit renewals went down."	WHAT: FD renewal rate fell from 78% to 61% in Q2, driven by customers aged 55+ in the Northern region. WHY: that is about RM40M of stable funding at risk before the quarter-end liquidity review. WHAT TO DO: Deposits team to launch a relationship-manager call campaign to the top 200 maturing 55+ customers within 2 weeks.

Insight template (complete at least 3)

#	WHAT happened	WHY it matters (to whom?)	WHAT to do about it	Validated? (Step 5)
I-1				
I-2				
I-3				
I-4				
I-5				

PART B | STORY: from insights to a story

Step 7. Decide what enters the Story Space

Not every true insight belongs in a 10-minute RCC slot. The **Story Space** is the small set of insights that directly move your audience towards the decision. Everything else goes to the appendix (ready for Q&A) or is parked.

Filter	Question to ask	Score
Relevance	Does this matter to the Crowd (Puan Aisyah and RCC) and the decision on 8 Oct?	1 = low, 3 = high
Impact	How big is it (RM, % vs limit, number of customers)?	1 to 3
Actionability	Does it point to a specific decision or action RCC can take?	1 to 3
Confidence	Did it survive Step 5 validation?	Pass / Fail

Insight #	Relevance	Impact	Actionability	Confidence	Total	Decision: Story Space / Appendix / Park

Rule of thumb: 2 to 3 insights in the Story Space for a 10-minute slot. If an insight fails "Confidence", it cannot enter, however exciting it is.

Step 8. Build the story with the 3Cs

C1 | Crowd: who exactly is your audience?

Question	Your answer
Primary decision maker (one person)	
Who else is in the room, and what does each care about?	
Who might resist, and why? (Think about Daniel.)	
What do they already know / believe about InstantCash?	
What exactly do you need them to decide or do on 8 Oct?	
Format: live presenter, 10 minutes; what level of detail fits?	

C2 | Content: arrange your Story Space using S.T.O.R.Y.

Stage	What it does	Guiding question	Which insight / content?
S Situation	Sets the scene the audience agrees with	What is the "normal" or good news everyone accepts?	

Stage	What it does	Guiding question	Which insight / content?
T Take-off	Introduces the tension / twist	What changed, and what is the problem hiding under the good news?	
O Opportunity	Shows what is possible if we act	Where exactly is the problem, and what can we fix without losing the benefit?	
R Resolution	Your recommendation	What specifically should RCC decide? Who does what, by when?	
Y Yield	The payoff	What does the bank gain (or avoid) if RCC acts? And if it does not?	

Tip: Do not open with methodology. The committee does not need to hear how you cleaned the data unless they ask; keep it in the appendix.

C3 | Core: find your Main Point

Element	Your answer
Problem (what is wrong, with a number)	
Stakes (what happens if nothing changes)	
Steps (what should be done)	
Call to Action (what RCC must decide on 8 Oct)	

Now compress it into your Big Idea

One complete sentence that states your point of view AND what is at stake for the audience.

Our Big Idea: _____

Test: could Puan Aisyah repeat it to the CEO in the lift? If not, shorten it.

PART C | VISUAL: design with AI as your thought partner

Step 9. Use AI to recommend (and prototype) the visuals

Only now do you think about charts. For each insight in your Story Space, you already know the takeaway, so let the takeaway drive the chart, not the other way round. Use your organisation's approved AI tool (e.g., Microsoft 365 Copilot) and follow its data policy.

Rules for working with AI

- **Share aggregated summary tables, not the raw 7,519 rows.** Even though this data is synthetic, practise the habit you will need with real customer data.
- **Lead with your takeaway.** AI optimises for the data, not the message, unless you tell it the message.
- **Push back on unfamiliar charts.** RCC members should not need to learn how to read a graph.
- **You own the numbers.** Check every figure AI puts on a chart against your pivot table.
- **AI is a thought partner, not the decision maker.** Keep what helps, reject what does not, and say why.

Prompt 1: set the stage (paste once, attach the SWD + AI Primer PDF)

Review the attached guide from storytelling with data and use these principles when we explore ideas or discuss, review, and create graphs, slides, and presentations. Prioritize simplicity, clarity, and audience focus in all future recommendations.

Context: I am a credit portfolio analyst at a Malaysian retail bank. I am preparing a 10-minute live presentation to the Retail Credit Committee. The chair is the Head of Retail Credit, who is accountable for a Board risk appetite limit. The Head of Digital Banking, who sponsored the product, will also be in the room and may be defensive.

My Big Idea is: [paste your Big Idea]

Confirm you understand. I will then share one insight at a time.

Prompt 2: choose an appropriate visual (repeat for each Story Space insight)

I want to explore chart options for one slide. Act as a thought partner to help me identify and prototype effective visual options.

My audience is: [e.g., Retail Credit Committee; chair is cautious and data-driven]

I want to show: [your takeaway in ONE sentence]

How it will be used: [single slide in a live presentation; goal is to persuade RCC to ...]

Here is my data: [paste your small summary table, e.g., 5 to 20 rows]

Please generate 2 to 3 charts that could work well for this message and audience. Render the graphs so I can evaluate them visually. For each, briefly explain what it makes easy to see and what it might obscure. Favour familiar chart types. Use grey for context and ONE accent colour for the point I want the audience to notice.

Before making suggestions, ask me any questions that would help you give better input.

If the output is text or code instead of a picture, follow up: "Can you render the graphs as actual images so I can compare them visually?"

Prompt 3: refine the chosen chart

Here is the graph I chose: [share image or describe]. Help me refine it through the lens of clear, straightforward data communication. What could I remove or simplify? Is attention directed to what matters most? Suggest a takeaway title of no more than 12 words. Prioritise removing or simplifying over adding more.

Prompt 4: pressure-test the story before you present

Here are my audience, Big Idea, and the 3 to 5 takeaway titles in order: [paste]. Where might my message be unclear or fail to resonate? Does the story build tension and resolve it? What are the three toughest questions the Head of Digital Banking and the CRO delegate are likely to ask? Do not rewrite my story; help me find its weak spots.

Record your visual decisions

Insight	Takeaway title (max ~12 words)	Options AI suggested	Chosen chart and why	What we changed from AI's version

Step 10. Storyboard and present

Sketch your slides on paper or sticky notes first (one idea per note), then build 3 to 5 slides. Each slide = one takeaway title + one visual that proves it.

Slide	S.T.O.R.Y. stage	Takeaway title	Visual / content
1			
2			
3			
4			
5			

Presentation format

- 5 minutes per team, presented to "RCC" (the trainer and one other team role-playing Puan Aisyah, Daniel, Hafiz and Priya).
- 3 minutes of Q&A: expect at least one challenge on data quality and one from the Digital Banking side.
- End with a clear ask: "We recommend RCC decides ..."

How you will be assessed

Criterion	What "excellent" looks like	Points
Data (D)	Issues found and handled; correct denominators; insights quantified and validated	25
Insights	At least 3 insights, each with WHAT + WHY + WHAT TO DO; the right ones chosen for the Story Space	20
Story (S)	Clear Crowd; S.T.O.R.Y. flow with real tension; Main Point and one-sentence Big Idea	25
Visual (V)	Familiar charts, decluttered, one accent colour, takeaway titles, AI used thoughtfully (not blindly)	20
Delivery	Within time; clear call to action; handles tough questions calmly	10

Final checklist before you present

- Did we follow D, then S, then V?
- Can every number on our slides be traced back to our pivot tables?
- Does every slide have a takeaway title, not a label?
- Is it obvious where to look on every chart?
- Would Puan Aisyah know exactly what to decide after our 5 minutes?

Further reading: storytellingwithdata.com/makeovers | storytellingwithdata.com/ai | SWD + AI Primer (provided)