PAYGo PERFORM
Portfolio Quality Working Group Subcommittee: Loss / Default Indicators

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Logistics

1. We want this and future sessions to be interactive, open to questions or points of discussion at any time, unmute and speak up at any time
2. To minimize outside noise, however, your mics have been muted on entry. Please keep yourself muted throughout the call unless you have a question.
3. You may ask a question or make a comment at any time during the call. To do so you can:
   a) Use the Chat box on the right-hand side of the WebEx session.
      - To ensure that your question is seen by the moderator, select “All Participants” from the drop-down menu before sending the question.

   b) Unmute yourself and ask a question remembering to re-mute yourself when done.

Loss / Default Indicators

1) Portfolio at Risk (PAR) / (RAR)

- 70% respondents agreed that PAR should be included as a KPI, but 58% did not agree with its current definition
- Respondents felt that PAR was anachronistic and irrelevant in the PAYG markets, and since it doesn't consider the past behavior of the customer, it does not measure risk precisely
- However, some of them agreed that PAR as a KPI is intuitive to lenders/ investors, and it might be useful if it is accompanied by follow-up metrics like default rates associated with each PAR, and analyzed on a cohort basis.
- They suggested investigating the threshold for analysis (30/60/90d?), making a distinction between cumulative and consecutive missed days of payments, and considering renaming it as Receivables at Risk (RaR)

"PAR is a widely used term in micro-finance, but the definition is different to the one here. As such, it should be renamed, maybe RAR, so Receivables at Risk, have a clearer definition"

-PAYGo Company

"I find this much less useful than churn or cohort analysis, but I recognize it is viewed as useful by the industry for standardization purposes"

-Consulting Firm

Receivables at Risk (RAR)

	Accounts receivables on active units that have remained unpaid for > (x days) as a proportion of total accounts receivables
	RAR measures credit risk of a portfolio, and identifies the percentage of receivables that are in arrears ('at risk')
	$$\frac{\text{Amount owed by customers with any balance billed in the last (e.g. 90d), which is overdue by more than (e.g. 30d)}}{\text{Total amount owed customers on active units}}$$
	The threshold for analysis (e.g. overdue > 30d in the past 90d) must be closely examined and modified keeping in mind the nature of units sold, business model, write-off policy, etc.
	May not be relevant to business models that allow for or expect less frequent top-ups, energy as service companies, and in fast growing businesses, RAR can underestimate churn credit losses
	…
	…

Receivables at Risk (RAR) -- an alternative approach

	Accounts receivables on active units which exhibit low utilization > (days paid / days in period < x) as a proportion of total accounts receivables
	RAR measures credit risk of a portfolio, and identifies the percentage of receivables that may be likely to default
	$\frac{\text{Amount owed by customers with any balance billed in the last (e.g. 90d), which has a utilization less than (e.g. 25\%)}}{\text{Total amount owed customers on active units}}$
	The threshold for analysis (e.g. overdue > 30d in the past 90d) must be closely examined and modified keeping in mind the nature of units sold, business model, write-off policy, etc.
	May not be relevant to business models that allow for or expect less frequent top-ups, energy as service companies, and in fast growing businesses, RAR can underestimate churn credit losses
	…
	…

2) Churn Rate

- 90% respondents agreed that churn rate should be included as a KPI, but 50% did not agree with its current definition
- Respondents felt that churn as a KPI could be improvised if:
  - There is clarity and consistency in definitions of active, unlocked and written off accounts
  - Arriving at a consensus on the right threshold for analysis (30/60/90d)
  - Analyses consider value of churned units instead of the number of churned units
  - Split churn into a few categories – like repossession rate, write-off rate and net default rate

“What does '(# of active [Units] as calculated 90 days ago)' this mean? This may be too convoluted and could read # of paid for units as at 90 days ago?”

-PAYGo Company

“Churn has a very specific and accepted meaning within subscription billing models, and this is not it. Nor is the "standard" method of calculating churn appropriate here: PAYG accounts are not subscriptions. You can't calculate ("monthly payments" * "gross margin") / "churn" = PAYG Lifetime Value. I would split this out into a few categories and call them what they really are” – PAYG platform provider

-PAYG platform provider

Churn Rate

	The percentage of units installed that have become inactive in a given time period
	Churn measures customer turnover i.e. the share of customer/unit relationships that have ended because of inactivity, repossession or write offs
	$\frac{\text{Number of units (repossessed + lost + written off)}}{\text{Total number of units installed (and not repossessed, lost, written off) at start of period}}$
	Churn rates cannot be interpreted in isolation. High churn rates could either indicate lower profitability or good use of assets in circulation (repossessed assets reinstalled and sold to a different customer).
	• ’Written off’, ‘Lost’ may have different meanings based on the organizations operational and accounting policies
	…
	…

3) Write-off Ratio

	The fraction of units written off [in a cohort]
	Write off ratio represents the customer payments due that the PAYGo company has removed from its books of accounts because of substantial uncertainty in their collection
	$\dfrac{\text{Units which have been written off or have not paid for the past 120 days}}{\text{Total number of units installed [in a cohort]}}$
	Write-off policies differ across companies, need to define what write-off is, for the purposes of this ratio.
	…
	Cohorts provide write-off ratio with necessary context
	…

3) Write-off Ratio -- an alternative approach

	The fraction of receivables value written off in a period
	Write off ratio represents the customer payments due that the PAYGo company has removed from its books of accounts because of substantial uncertainty in their collection
	$\dfrac{\text{Receivables value of units which have been written off or have not paid for the past 120 days}}{\text{Average total receivables value in the period}}$
	Write-off policies differ across companies, need to define what write-off is, for the purposes of this ratio.
	…
	…
	…

4) Repossession Ratio

	The fraction of units repossessed [in a cohort]
	Repossession ratio represents the number of units that a PAYGo company has recovered from its customers for non payment of their outstanding amounts
	$\frac{\text{Units which have been repossessed}}{\text{Total number of units installed [in a cohort]}}$
	This should also be analyzed together with a “Redeployment Ratio”, as repossession is not necessarily a bad thing (from an economic perspective) as long as the units are redeployed and collecting cash again.
	…
	Cohorts provide repossession ratio with necessary context
	…

5) Default Rate

	The percentage of customers who have defaulted on their payments (not paid for x days)
	The default rate represents the share of customers in a portfolio who have not made their payments in a given time period.
	$\frac{\text{Units which have defaulted (not paid in ‘x’ days)}}{\text{Total number of units installed in a cohort}}$
	Need to define and standardize what default means, and standardize the threshold (30/60d?)
	…
	…
	…

Additional Ancillary / Informational Metrics

- Group discussion touching on additional metrics such as receivables growth rate or weighted average life of receivables that will be important in providing context and passing sniff tests

Working Group Timeline

Weeks 1 & 2

- Agree on list of KPIs and basic definitions

Week 3

- **Determine relevant cohorts, thresholds, time series**
- **Assign formulas**

Week 4

- Identify missing ancillary / informational indicators to pass sniff tests
- Present recommendations to working group

Next Steps

- Come back with relevant cohorts, thresholds, and time series for selected KPIs
- Finalize formulae
- Submit by [Monday 22nd COB]
- Discuss on call on [24th or 25th]

Thank you

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