

Lead Entity Formula Scripts - Phase 1

Copy and Paste These Into EspoCRM

Location: Administration → Entity Manager → Lead → Formula (Before-Save Script)

Instructions:

1. Navigate to Administration → Entity Manager
2. Click on "Lead" entity
3. Click "Formula" tab
4. Copy the COMPLETE FORMULA below
5. Paste into the formula editor
6. Click "Save"
7. Test with a lead record

COMPLETE LEAD FORMULA (Copy Everything Below This Line)

```
JavaScript
// _____
// SIYAPATHA FINANCE - LEAD AUTO-CALCULATION FORMULAS
// Phase 1: EMI, FOIR/DTI, Lead Scoring, Auto-Qualification
// _____
//
// 1. EMI CALCULATOR
// Calculate monthly installment based on loan amount and tenure
// _____
ifThen(
    cDesiredLoanAmount && cPreferredTenure,
    // Variables
    $P = cDesiredLoanAmount;
    $annualRate = 18; // 18% p.a. default
    $r = $annualRate / 12 / 100;
    $n = cPreferredTenure;

    //  $EMI = P \times r \times (1+r)^n / ((1+r)^n - 1)$ 
    $numerator = $P * $r * math\power(1 + $r, $n);
```

```

$denominator = math\power(1 + $r, $n) - 1;
$cemi = $numerator / $denominator;

// Store calculated EMI
$cCalculatedEMI = math\round($cemi, 2);
$cProposedEMI = $cCalculatedEMI;
);

// -----
// 2. FOIR & DTI CALCULATOR
// Financial ratios for qualification assessment
// -----

ifThen(
    $cProposedEMI && $cCMonthlyIncome && $cExistingMonthlyObligations >= 0,

    // FOIR = New EMI / Income * 100
    $cFOIR = math\round((($cProposedEMI / $cCMonthlyIncome) * 100, 2));

    // DTI = Total Obligations / Income * 100
    $totalObligations = $cExistingMonthlyObligations + $cProposedEMI;
    $cDTI = math\round((($totalObligations / $cCMonthlyIncome) * 100, 2));

    // Auto-qualification check
    ifThen(
        $cFOIR < 60 && $cDTI < 50,

        // PASS - Customer qualifies
        $cFinancialQualification = 'Pass';

        // Calculate maximum eligible amount
        $maxEMI = $cCMonthlyIncome * 0.50; // 50% DTI limit
        $availableEMI = $maxEMI - $cExistingMonthlyObligations;

        // Reverse EMI calculation for max loan amount
        // P = EMI * ((1+r)^n - 1) / (r * (1+r)^n)
        $r = 18 / 12 / 100;
        $n = $cPreferredTenure;

        ifThen(
            $n > 0,
            $denom = $r * math\power(1 + $r, $n);
            $numer = math\power(1 + $r, $n) - 1;
            $cMaxEligibleAmount = math\round($availableEMI * $numer / $denom,
        0);
    );
)
,
```

```

        // FAIL - Customer does not qualify
        cCFinancialQualification = 'Fail';
        cCMaxEligibleAmount = 0;
    );
);

// -----
// 3. LEAD SCORING ALGORITHM
// Scores lead from 0-100 based on data completeness & quality
// -----


$score = 0;

// CONTACT INFORMATION (30 points)
ifThen(phoneNumber, $score = $score + 15);
ifThen(emailAddress, $score = $score + 10);
ifThen(addressCity && addressState, $score = $score + 5);

// FINANCIAL INFORMATION (40 points)
ifThen(cDesiredLoanAmount, $score = $score + 10);
ifThen(cCMonthlyIncome, $score = $score + 15);
ifThen(cEmployeeType, $score = $score + 10);
ifThen(cExistingMonthlyObligations >= 0, $score = $score + 5);

// DOCUMENTATION (15 points)
ifThen(cNICNo, $score = $score + 10);
ifThen(cDateOfBirth, $score = $score + 5);

// SOURCE QUALITY (15 points)
ifThen(source == 'Web Site', $score = $score + 5);
ifThen(source == 'Existing Customer', $score = $score + 15);
ifThen(source == 'Partner', $score = $score + 10);
ifThen(source == 'Call', $score = $score + 3);

// BONUS: Good CRIB score
ifThen(cCreditScore >= 700, $score = $score + 10);

// Cap at 100
ifThen($score > 100, $score = 100);

// Store score
cLeadScore = $score;
cScoreLastUpdated = datetime\now();

// -----
// 4. AUTO-QUALIFICATION LOGIC
// Automatically set status to Qualified when criteria met

```

```
// _____  
  
ifThen(  
    status == 'Verified' &&  
    cCreditScore >= 650 &&  
    cCFinancialQualification == 'Pass' &&  
    cCFOIR < 60 &&  
    cCDTI < 50,  
  
    // Set status to Qualified  
    status = 'Qualified';  
);  
  
// _____  
// END OF FORMULAS  
// _____
```

What These Formulas Do

1. EMI Calculator

Triggers: When loan amount and tenure are entered

Calculates: Monthly installment using standard EMI formula

Result: Stores in `cCCalculatedEMI` and `cProposedEMI`

Example:

- Loan: Rs. 500,000
 - Tenure: 36 months
 - Rate: 18% p.a.
 - **EMI: Rs. 18,076**
-

2. FOIR & DTI Calculator

Triggers: When EMI, income, and existing obligations are present

Calculates:

- FOIR = $(\text{Proposed EMI} \div \text{Income}) \times 100$
- DTI = $(\text{All Obligations} \div \text{Income}) \times 100$
- Max eligible loan amount

Thresholds:

- FOIR must be < 60%
- DTI must be < 50%
- If both pass → Qualification = Pass
- If either fails → Qualification = Fail

Example (Journey 1):

- Income: Rs. 75,000
 - Existing: Rs. 15,000
 - Proposed EMI: Rs. 18,076
 - **FOIR: 24.1% ✓**
 - **DTI: 44.1% ✓**
 - **Status: PASS**
-

3. Lead Scoring (Nice to have feature)

Triggers: On every save

Calculates: Score from 0-100 based on:

Category	Points	Criteria
Contact Info	30	Phone, email, address
Financial Info	40	Loan amount, income, employment
Documentation	15	NIC, DOB
Source Quality	15	Web, existing customer, partner

Category	Points	Criteria
CRIB Bonus	+10	Score \geq 700

Example:

- New lead with basic contact: ~30 points
 - After first call with financials: ~65 points
 - After CRIB check (good score): ~75 points
-

4. Auto-Qualification

Triggers: When status = Verified

Checks:

- CRIB score \geq 650
- Financial qualification = Pass
- FOIR < 60%
- DTI < 50%

Action: Automatically sets status to "Qualified"

Testing the Formulas

Test Case 1: Journey 1 (Happy Path)

Create/update a lead with these values:

```

None
First Name: Test
Last Name: Customer
Phone: +94771234567
Email: test@example.lk
Address City: Colombo
Address State: Western Province

Loan Amount (cDesiredLoanAmount): 500000
Tenure (cPreferredTenure): 36

```

Monthly Income (cCMonthlyIncome): 75000
Existing Obligations (cExistingMonthlyObligations): 15000
CRIB Score (cCreditScore): 720
Status: Verified

Expected Results After Save:

- ✓ cCCalculatedEMI = 18,076
 - ✓ cCFOIR = 24.1
 - ✓ cCDTI = 44.1
 - ✓ cCFinancialQualification = Pass
 - ✓ cCMaxEligibleAmount = ~600,000
 - ✓ cLeadScore = 75+
 - ✓ Status automatically changes to "Qualified"
-

Test Case 2: Disqualified (High DTI)

None
Monthly Income: 50000
Existing Obligations: 20000
Proposed Loan: 500000 (36 months)
CRIB Score: 720

Expected Results:

- ✓ cCCalculatedEMI = 18,076
 - ✓ cCFOIR = 36.2% (Pass)
 - ✓ cCDTI = 76.2% (Fail - over 50% limit)
 - ✓ cCFinancialQualification = Fail
 - ✓ Status remains "Verified" (not auto-qualified)
-

Test Case 3: Poor CRIB Score

None

Monthly Income: 75000

Existing Obligations: 10000

Proposed Loan: 300000

CRIB Score: 550 (below 650 threshold)

Expected Results:

- ✓ Financial calculations complete
- ✓ cCFinancialQualification may be Pass
- ✓ But status does NOT change to Qualified (CRIB too low)

Next Steps After Formula Installation

Once formulas are saved and tested:

1. ✓ Create status progression workflows
2. ✓ Update Lead layouts to show calculated fields
3. ✓ Test with Journey 1 sample data
4. ✓ Proceed to Phase 2 (Conversion automation)