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Account Receivable Analysis
Rock Stores

1.0 Executive Summary

The credit phenomenon has many advantages for both the creditor and the debtor if managed within defined, understood and followed guidelines limiting the major risk of default and undue extended payment periods.

The Rock Stores, selling building and home supplies, have been selected as an imaginary store for this analysis.

Project Objective:

The objective of this project analyzes is to strengthen credit governance, improve data accuracy, and enable management to make informed decisions that protect income while optimizing working capital for the store through adequate timeline and debt capacity. The key determinants of this objective are to determine:

- The level of credit sales capacity to the total sales level compared to industry
- Debt turnover ratio (DTO) to determine liquidity planning
- Credit period and credit limit compliance to policy
- Supplier and category concentration risk
- Customer repayment performance through overdue payment analysis
- Accurateness of the outstanding debt balances
- Internal control weaknesses and possible fraud through duplicate transactions

Project Scope:

- 4 tables were used: ***debtors_list, sales, pmt_received and outstanding debt***
- The database includes 41 customers
- Customers were grouped under 8 categories based the nature of their business activities
- Approved credit limit to be granted to a customer is between 5% - 50% of customer total purchase based on the customer category
- Approved credit period to be granted to a customer is between 15 - 60 days based on customer category
- 73 sales transactions were used
- Sales type is limited to credit or cash sales only

Tools Deployed:

- Microsoft Excel
- Power Query
- SQL
- Power BI

Summary of Project Findings:

After anlyses, 7 strengths and 4 weaknesses were identified. The store balanced a strong account receivable management system with capitalizing gains from the credit sales to boost income and profit. The accounts receivable management software producing inaccurate balances and accepting duplicate records needs an audit and resolution whiles the 34 customer exceeding their credit approved limits have to managed to avoid default. It is also recommended that the business diversifies its customer base to avoid the 36% concentration risk identified.

2.0 Methodology

The following methods were deployed:

- 4 tables were created for this analysis: *debtors_list, sales, pmt_received, and outstanding_debt*
  - The debtors_profile includes the columns: *customer_id, customer_name, customer_category, province_name, date_of_first_purchase, approved_credit_limit_to_sales, approved_credit_period*
  - The sales table includes columns such as: *customer_id, order_id, transaction_date, customer_date, invoice_no., type_of_sales, invoice_amt, expected_pmt_date*
  - Pmt_received table includes: *customer_id, pmt_date, customer_name, invoice_no., paid_amt*
  - The outstanding_debt includes: *customer_id, customer_name, invoice_no., debt_balance*
- The various key indicators defined in the object statement were manipulated using SQL and analysed with Power Query
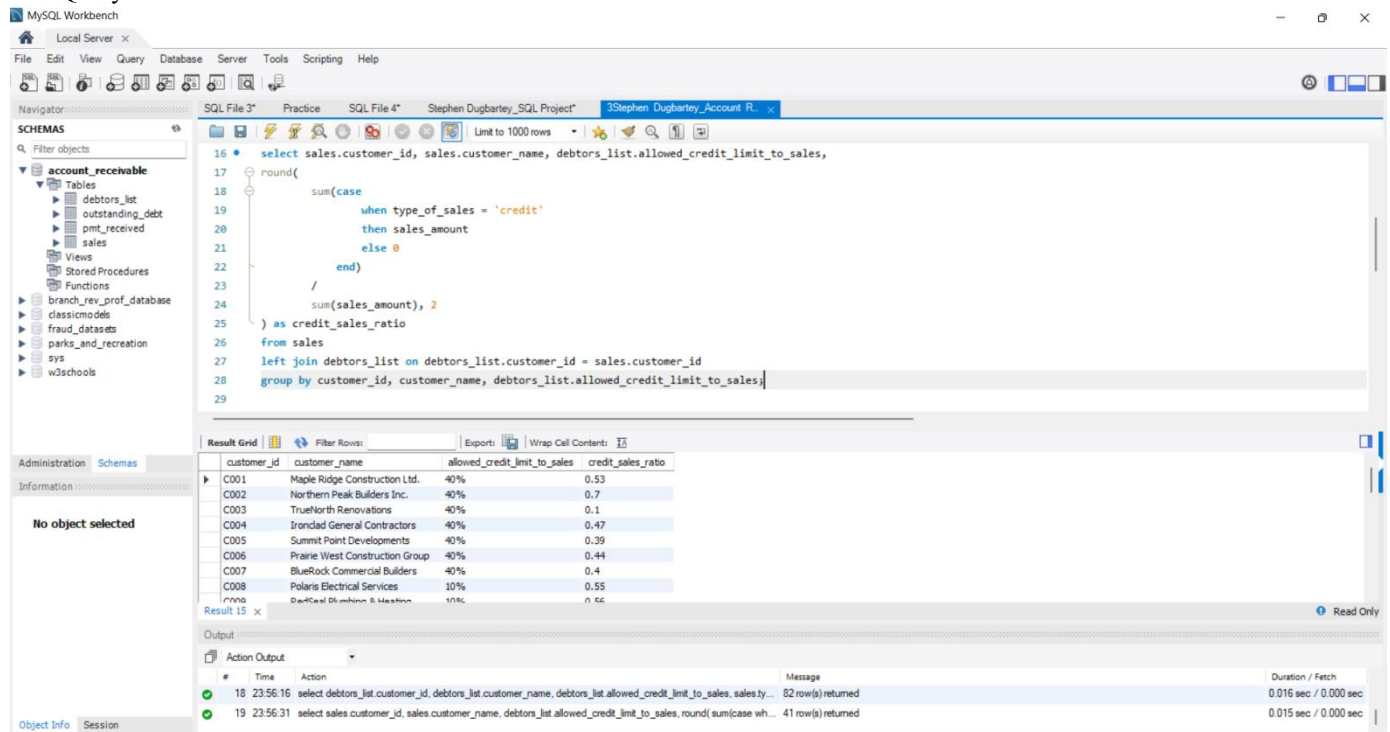
- Dashboards summary was created using Power BI with descriptive interpretations.
- Recommendations, management impact and risks to be considered were suggested to aid resolve weaknesses discovered after the analysis

Data Limitations

- **Simulated Data:** The datasets were generated by simulation and may not fully capture the complexity, seasonality, behavioural patterns of real-world retail customer transactions and payment behaviour
- **Limited Time Horizon:** Analysis based on a single period (FY2025) may not capture seasonality or long-term trends, payment behaviour over multiple periods and seasonal fluctuations.
- **Simplified Credit Terms and Payment Structures:** Credit terms, payment amounts, and settlement behaviour are standardized and may not reflect negotiated customer-specific agreements, partial payments, or instalment-based settlements commonly observed in practice.
- **Exclusion of External Factors**: The datasets do not incorporate external influences such as economic conditions, customer credit ratings, dispute resolution processes, or supply chain constraints that can materially impact accounts receivable performance.

2.0 Project Outcomes

Based on the project objective, the following key performance areas was discovered:

Strengths
- The business credit sales is about 50% of its total sales value for the FY 2025
- Even though the percentage of credit sales is high in proportion to total sales, the debt turnover ratio (DTO) is about 31.93 indicating a faster collection and good credit management policy
- Every customer was granted credit period in compliance to the approved credit period policy
- No account receivable record for all customers was duplicated
- No sales transaction was duplicated
- No outstanding debt record was duplicated
- 4 out of the 8 categories make up about 45% of the store's sales income

Weaknesses
- Out of the 41 customers, 34 customers exceeded their credit approved limit by 1 to 73%
- 10 customers make up 36% of total sales of the store showing customer concentration risk
- Debt balance shows overdue periods from 35 to 399 days but those overdue amounts exist as a result of inaccurate debt balances of $250 to $750 sitting on customer's account receivable accounts. No customer has overdue amounts.
- 98 out of 445 payments transactions is duplicated representing 28.04% and $1.58m.

The dashboard below summarizes the findings of the analysis.
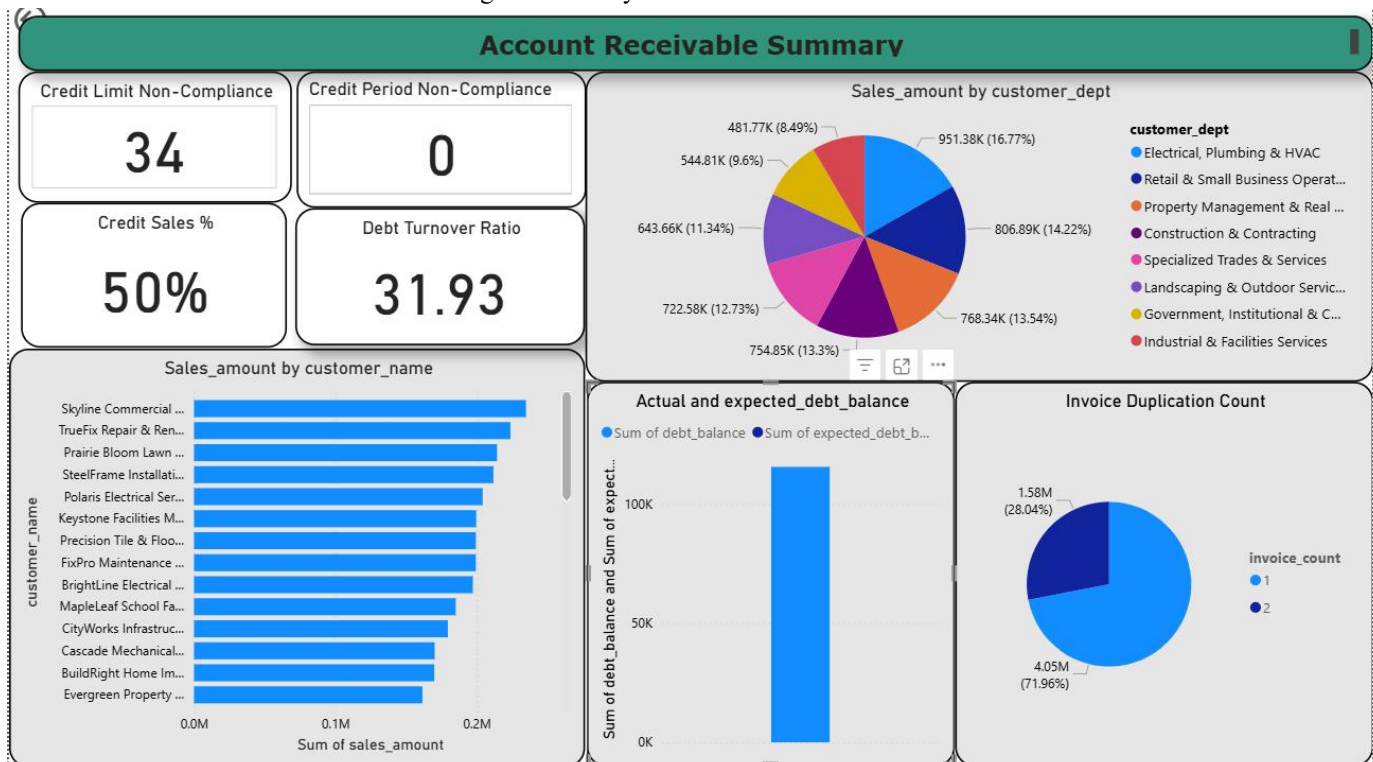
<h1 style="text-align:center">3.0 Details of Key Objective Areas</h1>

After the account receivable data was analysed in line with the stated objectives, the following information gives details:

Credit sales level and debt turnover ratio (DTO)

The credit sales of the business is about 50% of its total sales value for the FY 2025. Even though the percentage of credit sales is high in proportion to total sales, the debt turnover ratio (DTO) is 31.93 indicating a faster collection and good credit management policy.

% of credit_sales_to_total_sales			50%
debt_turnover_ratio			31.93

Credit period and credit limit compliance to policy

Every customer was granted credit period in compliance to the approved policy. The granted period was calculated deducting the transactions date from the expected payment date. No customer granted credit period violated the policy. Some of the information of customers is represented in the table below:

compliance_to_credit_period_policy			
customer_id	customer_name	allowed_credit_period	granted_period
C001	Maple Ridge Construction Ltd.	45	-45
C002	Northern Peak Builders Inc.	45	-45
C004	Ironclad General Contractors	45	-45
C006	Prairie West Construction Group	30	-30
C008	Polaris Electrical Services	30	-30
C009	RedSeal Plumbing & Heating	15	-15
C010	ArcticFlow HVAC Solutions	60	-60
C011	BrightLine Electrical Contractors	45	-45
C012	Cascade Mechanical Services	15	-15
C013	Apex Climate Control	60	-60
C014	Evergreen Property Management	60	-60
C015	UrbanCore Realty Services	30	-30
C016	Northern Star Property Group	15	-15
C018	Keystone Facilities Management	45	-45
C020	Prairie Bloom Lawn & Garden	30	-30

Out of the 41 customers, 34 customers exceeded their credit approved limit by 1 to 73%. The actual credit sales ratio for each customer is the proportion of credit sales to total sales calculated for the same customer.

compliance_to_credit_limit_policy				
customer_id	customer_name	allowed_credit_limit_to_sales	actual_credit_sales_ratio	difference
C001	Maple Ridge Construction Ltd.	40%	53%	-13%

C002	Northern Peak Builders Inc.	40%	70%	-30%
C004	Ironclad General Contractors	40%	47%	-7%
C006	Prairie West Construction Group	40%	44%	-4%
C008	Polaris Electrical Services	10%	55%	-45%
C009	RedSeal Plumbing & Heating	10%	56%	-46%
C010	ArcticFlow HVAC Solutions	10%	44%	-34%
C011	BrightLine Electrical Contractors	10%	36%	-26%
C012	Cascade Mechanical Services	10%	83%	-73%
C013	Apex Climate Control	10%	43%	-33%
C014	Evergreen Property Management	35%	37%	-2%
C015	UrbanCore Realty Services	35%	36%	-1%
C016	Northern Star Property Group	35%	36%	-1%
C018	Keystone Facilities Management	35%	69%	-34%
C020	Prairie Bloom Lawn & Garden	15%	88%	-73%
C021	Evergreen Outdoor Solutions	15%	76%	-61%
C022	Summit Grounds Maintenance	15%	48%	-33%
C023	Northern Roots Landscaping	15%	36%	-21%
C024	Cornerstone Hardware Installers	10%	80%	-70%

Determine supplier and category concentration risk

4 out of the 8 categories make up about 45% of the store's sales income. 10 customers make up 36% of total sales of the business showing customer concentration risk. This makes a fair spread across customers and categories without concentration risk. The data is captured below:

customer_id	customer_name	sales_amount	% to total
C017	Skyline Commercial Properties	234777.39	4%
C028	TrueFix Repair & Renovation	223793.84	4%
C020	Prairie Bloom Lawn & Garden	214315.39	4%
C035	SteelFrame Installations	211773.4	4%
C008	Polaris Electrical Services	204168.28	4%
C018	Keystone Facilities Management	199573.23	4%
C033	Precision Tile & Flooring	199359.24	4%
C026	FixPro Maintenance Services	199324.46	4%
C011	BrightLine Electrical Contractors	197201.17	3%
C039	MapleLeaf School Facilities	185133.87	3%

customer_dept	sales_amount	% to total
Electrical, Plumbing & HVAC	951378.32	17%
Retail & Small Business Operators	806894.89	14%
Property Management & Real Estate	768343.27	14%
Construction & Contracting	754851.63	13%

Customer overdue payment analysis

Debt balance shows overdue periods from 35 to 399 days but those overdue days and amounts exist as a result of inaccurate debt balances of $250 to $750 sitting on customer's accounts. No customer has actual overdue amounts and there should not be any overdue amounts or overdue days. The error could be from weak process controls, account receivable software logical failure to calculate accurate balance or both. Some of the overdue customer days and amounts are captured in the table below:

customer_id	customer_name	overdue_days
C033	Precision Tile & Flooring	-399
C022	Summit Grounds Maintenance	-398
C009	RedSeal Plumbing & Heating	-395
C018	Keystone Facilities Management	-394
C021	Evergreen Outdoor Solutions	-393
C001	Maple Ridge Construction Ltd.	-392
C030	Atlas Facility Services	-392
C028	TrueFix Repair & Renovation	-391
C020	Prairie Bloom Lawn & Garden	-389
C028	TrueFix Repair & Renovation	-388
C030	Atlas Facility Services	-388

customer_id	customer_name	invoice	sales_amount	expected_debt_ balance	actual_debt_bal ance
C001	Maple Ridge Construction Ltd.	INV-213528	8991.58	0	750
C001	Maple Ridge Construction Ltd.	INV-942663	7352.72	0	750
C002	Northern Peak Builders Inc.	INV-623921	19484.54	0	750
C003	TrueNorth Renovations	INV-126629	9626.09	0	750
C003	TrueNorth Renovations	INV-126629	9626.09	0	750
C003	TrueNorth Renovations	INV-232408	8764.05	0	500
C003	TrueNorth Renovations	INV-532922	14077.01	0	500
C003	TrueNorth Renovations	INV-532922	14077.01	0	500
C003	TrueNorth Renovations	INV-652272	28199.02	0	250

C003	TrueNorth Renovations	INV-116924	20115.64	0	250
C003	TrueNorth Renovations	INV-116924	20115.64	0	250
C004	Ironclad General Contractors	INV-134862	16049.21	0	500
C005	Summit Point Developments	INV-573451	16718.12	0	750
C005	Summit Point Developments	INV-666579	10737.5	0	500

Duplicate data

After analyzing all the customer tables, 98 out of 445 payment transactions is duplicated. The duplicate data has the same invoice no., paid amount matching the same customer and customer ID. This duplication could represent weaker internal controls over the account receivable management process or a malfunctioning of the integrity capacity of the account receivable software in maintaining and updating customer information accurately. A couple of the discovered data has been posted below.

payment_count

customer_id	customer_name	invoice_count	paid_amt
C001	Maple Ridge Construction Ltd.	2	13564.16
C002	Northern Peak Builders Inc.	2	18336.19
C003	TrueNorth Renovations	2	9626.09
C003	TrueNorth Renovations	2	9365
C003	TrueNorth Renovations	2	14077.01
C003	TrueNorth Renovations	2	20115.64
C004	Ironclad General Contractors	2	1686.69
C004	Ironclad General Contractors	2	23000.38
C005	Summit Point Developments	2	10737.5
C006	Prairie West Construction Group	2	2337.31
C006	Prairie West Construction Group	2	15891.28
C006	Prairie West Construction Group	2	13216.44
C006	Prairie West Construction Group	2	13225.06
C007	BlueRock Commercial Builders	2	14696.07
C007	BlueRock Commercial Builders	2	23354.45
C008	Polaris Electrical Services	2	6546.86
C008	Polaris Electrical Services	2	29544.68
C008	Polaris Electrical Services	2	25691.4
C008	Polaris Electrical Services	2	24744.97
C008	Polaris Electrical Services	2	12508.04

 The following strategies have been recommended to aid resolve the identified account receivable management weaknesses of the store.

Identified Weaknesses	Recommendation	Management Impact	Risk to be Considered
• Out of the 41 customers, 34 customers exceeded their credit approved limit by 1% to 73%	• Implement automated credit limit checks that block or escalate credit sales once approved limits are exceeded. • Introduce tiered credit approval levels • Periodic credit limit reassessment • Real-time credit utilization monitoring	• By enforcing credit controls, correcting inaccurate balances, and eliminating duplicate payments, management gains a more accurate view of true receivables, enabling better cash flow forecasting and liquidity planning. • Automated credit checks, real-time monitoring, and customer segmentation significantly enhance the organization's credit risk management and compliance. • Automation, reconciliation routines, and exception reporting reduce manual intervention and errors while improving control reliability. • Accurate data and standardized metrics allow management to shift from reactive issue-resolution to proactive, data-driven decision-making.	• **Customer Relationship and Revenue Risk.** Stricter credit enforcement, payment controls, or revised terms may negatively impact long-standing customers, potentially leading to reduced sales volume, customer dissatisfaction, or loss of key accounts. • **Operational Disruption and Change Management Risk**. Introducing new controls, system validations, and monitoring processes may temporarily disrupt day-to-day operations, increase processing time, or face resistance from staff accustomed to existing workflows. • **Data Dependency and Control Design Risk.** The effectiveness of automated controls and monitoring is highly dependent on data accuracy, system integration, and proper configuration. Weak data quality or poorly designed rules may generate false positives or miss genuine risks.
• 10 customers make up 36% of total sales of the business showing customer concentration risk	• Expand sales efforts towards unrepresented customer segments • Classify high revenue customers as key accounts with enhanced credit monitoring and management • Perform scenario analysis on some categories to assess financial impact • Strengthen contractual payment terms for stricter payment terms or enhance retention for improved income		
• Debt balance shows overdue periods from 35 to 399 days but those overdue amounts exist as a result of inaccurate debt balances of $250 to $750 sitting on customer's accounts. No customer has overdue amounts.	• Automated invoice-to-payment reconciliation • Introduce system thresholds that auto-write-off or flag immaterial balances • Root cause analysis of balance errors		
• 98 out of 445 payments transactions is duplicated	• Implement controls to flag identical customer, invoice, amount, and payment date combinations. • Enforce invoice–payment–customer matching before payments are posted to accounts. • Separate payment entry, approval, and reconciliation responsibilities to reduce error and fraud risk. • Produce weekly or monthly duplicate payment exception reports for management review and corrective action.		