AN SME CREDIT SCORING MODEL ILLUSTRATION

A SMALL RETAIL BUSINESS MODEL

MARCH 17,2010

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A SMALL RETAIL BUSINESS MODEL

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Jordan Kuwait Bank

Jordan Loan Guarantee Corporation

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EXECUTIVE SUMMARY

Credit scoring models are used globally to process applications for a variety of credit products. These models have greatly enhanced credit processing and improved loan quality, which is why lenders and regulators alike embrace the concept.

Jordanian lenders to the SME market will one day use scoring models on a broad scale and realize similar benefits. One of the important "predictive factors" for scoring models is accurately reported repayment history from a credit bureau. Despite the absence of a credit bureau, several forward thinking bankers are designing scoring models and will make the necessary adjustments later, when a credit bureau is in operation.

Clearly, there is great interest in scoring models among Jordanian bankers. For this reason, the Association of Banks in Jordan and SABEQ devotes considerable time to credit scoring at workshops and during banker interviews. A first and second draft of this Report was circulated to bankers in 2008, and banker interviews in February 2010 led to this Report. A growing number of banks are responding, which explains why three banks were added to the Acknowledgement section. To further understanding and discussion, an illustration of a scoring model is described to assess loan applications for sector specific small businesses. An example shows a fictitious loan request from Ready Order Pharmacy to a fictitious bank, Bank Amman, and how the loan request/customer is "scored" to arrive at a credit and pricing decision.

All of the information herein comes from discussions with Jordanian bankers that are in the process of designing scoring models. Bankers that are unfamiliar with credit scoring should gain a full understanding of the subject before trying to develop their own model. Moreover, we recommend the use of an outside expert, or experts, to develop and implement a credit scoring model.

The results from using a credit scoring model should be measured and analyzed on a regular basis. Scoring models become obsolete if not tracked and adjusted periodically.

BACKGROUND

TERMS OF REFERENCE

The Advisor has worked with Jordanian bankers since August 2007 to support access to finance for small to medium size enterprises (SMEs). This work has been funded by the United States Agency for International Development (USAID) through the Jordan Economic Development Program (SABEQ). Most of the information herein was gathered from bankers between August 2008 and February 2010.

REPORT

The last Report contained a sample scoring model to assess SME loan requests (the Model), explanatory notes and comments received from Jordanian bankers. This Report contains another series of comments from local bankers, updated explanatory notes and an illustration of a scoring model to assess small, sector specific loan requests from the "S" or small business segment of SMEs. Repetitive phrases were deleted from this Report to avoid reciting statements made in the previous version.

INTRODUCTION

CREDIT SCORING MODELS

Credit scoring models are used globally to process a variety of loan applications including SME loan applications. As stated in the previous Report, scoring models bring considerable institutional and economic benefits to the loan process including:

- Speed
- Accuracy
- Objectivity & quantifiable results
- Fewer bad debts
- Regulatory acceptance

Scoring models are developed from data analyzed after reviewing a bank's "good" and "bad" loan files involving past and present borrowers. Thus, a lender will use predictive risk factors based on actual experience. If a lender has insufficient loan history, it may consider purchasing data and/or analysis from a reliable source.

The IFC's SME Banking Knowledge Guide[1] lists "internal rating & (credit) scoring methods" as a common approach to managing credit risk when a bank acquires and screens applications from SME clients. Credit scoring is particularly effective when lenders' target the smaller SME segment using a "mass market" approach:

> "Mass-market approaches are often effective for small enterprises and can save time by combining decentralized client contact with centralized credit decision {and} process control. This is often enhanced by an automated credit scoring tool…. built from bank data, and can increase the accuracy and efficiency of screening."

CREDIT SCORING MODELS IN JORDAN

The Advisor has held a series of meetings with financial experts[2] in Jordan to identify ways of expanding access to financing for SMEs. A key sub-topic has been to identify efficient credit process tools without sacrificing loan quality or integrity. One of the more promising tools is a well designed credit scoring model.

This Report is another attempt to introduce a sample credit scoring model (the Model) for discussion purposes among the credit providers in Jordan. Along with the Model are explanatory notes and comments from bankers. Finally, at the request of several bankers, an illustration of a scoring model is presented to add perspective to this exercise. The models,

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[1] The SME Banking Knowledge Guide; IFC Advisory Services / Access to Finance, 2009 Edition, pages 27 & 28

[2] The experts included senior bank officers, SME department heads and leasing executives.

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All of the information in this and prior Reports was taken from discussions with Jordanian bankers who understand that processing SME loan applications requires different methods than those used to process retail or large corporate loan applications. Several banks are seen as leaders in this area and are experimenting with SME credit scoring models. It's fair to state that valuable contributions to this Report have come from these same banks.

One missing link for effective scoring models is the lack of a reliable credit reporting body (a credit bureau) in Jordan. Indeed, credit reporting is one of the crucial "predictive factors" for scoring models. However, several lenders realize they will one day have access to credit bureau services and are preparing now by exploring the use of SME scoring models. Scoring models developed today offer an opportunity for lenders to consider ways to quantify risks in the absence of a credit bureau. When a credit bureau is operating in Jordan, scoring models will be adjusted accordingly.

One last introductory comment is appropriate. USAID SABEQ and the Association of Banks in Jordan held a two day Credit Process Workshop in Amman in 2008. This event was well attended and roughly 25% of the time was dedicated to credit scoring and the challenges of designing such models for SME loan products in Jordan. Five break-out groups focused exclusively on design, components, predictive factors and sector-specific scoring methods. All of these topics are covered in this Report. This Workshop and evaluation feedback demonstrated the bankers' high level of understanding and interest in credit scoring.

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COMMENTS

GENERAL BANK COMMENTS

There is concern that some Jordanian bankers may rely excessively on this Model. The risk is these lenders may not appreciate the amount of internal work required before credit scoring can begin. This bank comment appears first, so the reader understands that this Model is not a “final solution” or even intended as a general credit tool. Rather, it is an understanding tool and part of a “work in process” for banks. A deeper understanding of credit scoring is essential, perhaps with the assistance of outside experts, before bankers can design and deploy scoring models (see Implementation Section).

A banker suggested connecting the Model with the requirements of Basel II. For example, the Non-financial and Financial Components would yield a score that places the borrower of an approved loan into a Basel II “obligor” grade. A similar approach with the Facility Component would yield a score for a Basel II “facility” grade. Further to this point, one bank suggested the Model quantify a Basel II Internal Ratings-Based approach to credit risk that expresses an acceptable tolerance range for an estimated loss.

Another banker suggested using criteria from the Model to establish price ranges for approved loans.

The Model is silent on documentation. It was suggested that approved and disbursed “non-documented” loans receive a lower score, which may later be increased when all required documentation is signed and recorded. Such an approach would alert the approving officer to the documentation risk and would also serve as a risk management tool to monitor loans until all documentation is complete.

This Model does not score factors for Shariah financing. However, one could develop a Shariah compliant SME scoring model using appropriate factors in the Non-financial or Facility component sections.

In the interest of full disclosure, at least one credit manager expressed doubt on the use of credit scoring SME loan requests. He believes Jordanian SMEs are different from those in other markets where scoring models are used, and predictive factors used in a model may not provide accurate results for Jordanian credit requests.
On the other hand, the following comments were taken from several SME related departments within one large bank, and rebut the above presumption. Overall:

- The scoring model is comprehensive and contains the components (financial, non-financial and facility) needed to make an informed credit decision.
- The scoring model is very flexible and allows the institution to assign weights to the various components in line with its Policies and Strategy for managing SME relationships.
- The issue of capturing {a company’s} bank debt below 20,000 JD still exists in Jordan due to the inability of centralized risk reporting (Centralized Reporting) to

capture bank debt below that figure.[3] It is possible more scrutiny of financial statements may show the true {debt} position for most companies should Centralized Reporting fail. In striving for automation, the struggle to assess risk given the absence of a mechanism to capture the true debt positions would still pose a challenge. Of course, one …. method to temporarily battle this {and meet the challenge} without jeopardizing automation could be assigning a lower weight to the financial section until a {credit} bureau is formed, or {until} the threshold for Centralized Reporting is decreased.

- The scoring model provides a fair platform for banks in Jordan to build upon and customize.
- Once the model is actually implemented and piloted, its true effectiveness will be realized and there may be a need to adjust and amend the model.

THREE COMPONENT FACTORS

There are three main components to this Model:

1- Non-financial
2- Facility, and
3- Financial.

A lender may elect to only use the Non-financial and Financial components, and use the Facility component for related decisions such as pricing, tenor and collateral. If a lender elects to drop the Facility component, a different weight would attach to Non-financial and Financial components to replace the 20 points removed with the Facility component. For example, the new distribution between Non-financial and Financial components could be 50% / 50%, 60% / 40%, 70% /30%, etc.

The Model proposes a total component weighting of 45% for Non-financial, 20% for Facility and 35% for Financial. Although arbitrary, a higher weighting for the Non-financial component reflects reality to some extent given the absence of adequate credit reporting and the presence of unreliable financial statements.

In the interest of efficiency, a lender may elect to place a threshold requirement on any one component and deny loan applications that do not meet this threshold score. Furthermore, an analysis could begin with one component that requires a threshold score, before analysis can proceed with more time consuming analysis of other components. For example, a minimum score of 25 may be the threshold for Non-financial factors, and loan requests that score less than 25 could be denied without taking the time to score the other components. The writer does not recommend this as "good" or "bad" practice.

[3] Bank officers noted recent improvement when reporting was lowered from 30,000 JD to 20,000 JD

BANK COMMENTS

One banker suggested using a brief checklist of 4 or 5 items before a loan is considered or scored. The checklist could include items from the bank's credit policy that either discourage consideration such as loans to alcohol wholesalers, or encourages consideration such as loans to a medical clinic with the proper certification. The checklist approach is sometimes referred to as "screening" and builds efficiency and reality into the process, before the bank wastes time applying a scoring model to the loan request. Instead of a brief scorecard, screening may take the form of a mini-scoring model of key risk factors.

At least one bank will review "good" and "bad" loan files for predictive factors before selecting components, scoring and weights for screening or scoring SME loan applications.

1. NON-FINANCIAL COMPONENT

Factors: These factors are self-explanatory and some are subjective in nature.

"Age of business", "Legal form", "Trade references" and "Black list" are factors commonly found in local scoring models.

"Legal form" was widely accepted by bankers as was the scoring selection.

"Trade references" as a factor received mixed reviews (see Bank Comments below).

"Bank client – years" and "Repayment record with bank" are factors found to a lesser degree in local models.

As with any other factor in the Model, the "Branch manager comment" is optional and, if used, may be worded differently or used on an experimental basis. The theory is that clients that frequent the branch and apply for loans are most likely best known by the Branch Manager.

"Client concentration – > 75%" is an attempt to quantify concentration risk, which can be a concern to lenders; this Model does not have a risk factor for "Supplier concentration" even though some lenders understandably express this companion concern.

"Debt confirmed with other lenders" assumes that the other bank debt is on file with the Central Bank and/or the applicant volunteers such information. It's possible that other bank debt exists and is not disclosed during the application process. Jordanian lenders are well aware of this risk but I have not observed a way to quantify such risk.

Please note "Credit ratings" for the "owner", "guarantor" and "business" are here in case a credit rating is available from an off-shore source or for when a domestic credit bureau exists.

Scoring: Each factor is scored on a 1, 2 or 3 basis. This scoring is used for the sake of ease and simplicity. Thus, lenders may elect different scoring schemes like 1 through 4 or 1 through 5. However, more diverse scoring options rarely add appreciably to predicting loan repayment.

While logical, the scoring values are not necessarily representative of SME loan experience in Jordan. Therefore, all scoring values merit careful review by lenders and changes are encouraged.

Weights: The Model does not propose equal or different weighting of factor as the lender makes this decision. Scores are multiplied by the respective weights and added together.

Some banks do not share with staff individual weight criteria or other mapping elements. The concern is openly sharing this information may compromise integrity of the model and leave calculations open to manipulation. Consequently, detailed information is restricted within these banks.

Total Score: The Total Score for Non-financial components is 45.

Bank Comments

One banker believes the Model should measure important intangibles such as management ability and depth, technology and a client's market share or related trends.

Another banker suggested a factor to measure the quality of a client's business relationships. The bank could review checks deposited into the client's account that are returned or "refused" when presented for payment. Unusual returned activity may indicate weak accounts receivables.

Several bankers believe the amount of deposit balances, or average deposit balances deserve a place in the Model. Normally, deposit balances are not considered "credit criteria" unless pledged to secure a loan, in which case these balances can be placed in the Facility section under collateral coverage. The writer has observed bankers in other markets that use unpledged deposit balances for pricing rather than credit considerations. The argument to use deposit balances in a credit scoring model becomes more persuasive if a bank can show strong statistical evidence that borrowers with high deposit balances generally repay loans.

"Legal form" was widely accepted but some bankers think the last column showing "limited" with a 3 score needs more definition. Suggestions included "Limited partnership", "Shareholding company" and "Limited liability company". The last phrase is used in this draft but bankers are free to use their own wording.

The use of "Trade references" generated much discussion. The original intent was for bankers to receive client permission to contact three main suppliers of goods and services. Feedback from these references would be scored based on payment history. Some bankers feel such feedback may prove unreliable, particularly when suppliers are family members, friends or those that desire bank financing to pay out past due invoices. Instead, one banker suggested inspecting dates and amounts on supplier invoices and cross check dates and amounts of payment from the customer's deposit account. This would allow the bank to audit independently a client's payment history with suppliers.

As for “Branch manager comment”, some bankers suggested this input should come from the relationship manager, not the branch manager.

One banker said the repayment record should be separated into direct and indirect credit facilities. Another banker feels broader and more creative ways are needed to measure a client’s “credibility” with the bank.

The “Ability to confirm key factors” subsection is offered in case a client’s information is validated with a 3rd party. For example, one bank suggested using verification of the client’s key receivables and score as follows:

Factor	**Scoring 1**	**Scoring 2**	**Scoring 3**	**Score/Weight/Total**
Validate JD amount of receivables	Less than 50%	50 - 85%	85 – 100%	

2. FACILITY COMPONENT

Factors: Again, a lender may elect to delete the Facility Component from the Model (see the first three paragraphs of this Section).

The “Type-P&I payment” factor reflects general concern among lenders associated with the excessive use of unstructured credit lines, such as overdraft facilities.

The writer recognizes unfairness is built into the “Tenor-years” factor because medium and long term facilities are penalized with lower scores. Lenders may wish to consider other ways to quantify the notion that longer maturities mean more risk.

As with many other factors, “Industry sector” contains predictive risks perceived by lenders. Instead of this approach, lenders may consider using different scoring models for loan requests from different sectors. This theme is repeated in this Section and is discussed in the Illustration section of this Report.

Scoring: Similar to the other two Components, each factor is scored on a 1, 2 or 3 basis (see NON-FINANCIAL COMPONENTS). Again, the lender should review each scoring value for changes or adjustments.

Weights: The Model does not propose weights. Each lender will make this decision (see NON-FINANCIAL COMPONENTS).

Total Score: The Model shows a total score of 20 points for the Facility Component.

3. FINANCIAL COMPONENT

Factors: Only seven financial statement ratios appear in the Model. The lender may want to add or take away from this list and may wish to assign ratios according to the client's size and sector.

Scoring: Similar to the other two components, each factor is scored on a 1, 2 or 3 basis (see NON-FINANCIAL COMPONENTS). The ratio value attributed to each score is unrelated to Jordan, SME size groups or sectors. Stated otherwise, no significance should attach to the scoring scheme shown in this Component. Lenders should consider ratio values and scores that are common benchmarks for a particular size group or sector in Jordan or the region. This would mean using different ratio values and scoring schemes depending on a sector.

Weights: The Model does not propose weights. Each lender will make this decision (see NON-FINANCIAL COMPONENTS).

Total Score: The Model shows a total score of 35 points for the Financial Component.

BANK COMMENTS

One bank feels the Model needs at least one other liquidity ratio, and a way to measure cash flow.

Another bank may add a current ratio and is considering other ratios such as sales to assets, payables turnover and gearing.

TOTAL SCORE – THREE COMPONENT FACTORS

The lender will determine total scoring guidelines. Hypothetical guidelines are shown below where 100 is the highest possible total score for one loan application:

Total Score	*Quality*
90 – 100	Highest
75 – 90	Good
50 – 75	Average
Below 50	Below Average

BANK COMMENTS – RISK MANAGEMENT

The use of a scoring model should not replace sound monitoring techniques following disbursal of a loan. Furthermore, should scoring be used to approve a loan application, then scoring should continue at regular intervals until the loan is fully repaid. Both are standard risk management practices.

One risk management officer stated that regular bank visits to the borrower's business should continue until the loan is fully repaid. This is part of the monitoring process. Another part is review of updated financial information, and the extent of analysis would depend on the bank's exposure, and repayment history.

A new or existing Component in a scoring model could measure monitoring factors. For example, results of bank visits after disbursement would have a separate scoring scheme and weighting, while scoring updated financial information would mirror certain parts in the Financial Component.

COMPARATIVE ANALYSIS

Comparative data is built into most advanced scoring models, which allows analysts to compare an applicant's financial performance with its peer group. This is sometimes referred to as "benchmarking". For example, assume a wholesaler of construction materials applies for a loan from a bank with comparative analysis built into the credit scoring model. The company's annual average sales are say 7.5 million JDs so the analyst compares the company's financial factors (shown in the chart below) with its peer group of similarly sized wholesalers of construction materials.

Peer Group – Wholesalers of Construction Materials in Jordan

Annual Sales between 5 and 10 million JD

Financial Factor	***Loan Applicant***	***Peer Group***
Current Ratio	.75	1.0
Sales Growth (2 yrs)	7%	10%
Net Margin	15%	10%
Receivable Turnover	45 days	45 days
Inventory Turnover	90 days	60 days
Debt Leverage	3:1	4:1

As you can see, the company's performance compares favorably with its peer group in some respects (net margin, leverage) and less favorably in others (liquidity, sales growth, inventory turnover). The loan analyst would assess these comparisons and make judgments based on bank practice. It's possible to imbed peer group performance in the Model to allow for comparative analysis and scoring.

However, valid comparative data must exist before comparative analysis makes sense. And the data must be updated annually. The Advisor has observed credit scoring models in Jordan that use comparative analysis based on peer group performance taken from developed markets like the US. While such models may allow one to study sector performance from other markets, the data is foreign and not appropriate for comparison purposes in Jordan. Comparative analysis for Jordanian scoring models would need to draw from a local data source.

SAMPLE CREDIT SCORING MODEL

	Score		Score		Score			
Factors	***1***		***2***		***3***	Score	Weight	Total Score
THREE COMPONENT FACTORS								
1. Non-financial = 45%								
Age of business - years	<two		two-seven		>seven			
Legal form	Personal		Partnership		Limited Liability Co.			
Trade reference #1- payment history	30+ days PD		10-30 days PD		0-10 days PD			
Trade reference #2 - payment history	30+ days PD		10-30 days PD		0-10 days PD			
Trade reference #3 - payment history	30+ days PD		10-30 days PD		0-10 days PD			
Black list - returned checks	Often		rare to sometimes		Never			
Bank client – years	<one		one to four		> four			
Repayment record with bank	below average		average - above average		well above average			
Branch manager comment	poor reputation		fair to good reputation		very good reputation			
Client concentration - <75% sales	< two clients		two-five clients		>five clients			
Debt confirmed with other lenders	Uncertain		somewhat certain		nearly certain			
Bank references	<fair		fair-favorable		>favorable			
Credit rating – owner	TBD		TBD		TBD			
Credit rating – guarantor	TBD		TBD		TBD			
Credit rating – business	TBD		TBD		TBD			
Other								
Ability to confirm key factors with:								
deposit statements,	not confirmed		mostly confirmed		Confirmed			
bank statements (deposits and loans)	not confirmed		mostly confirmed		Confirmed			
customer's books and records	not confirmed		mostly confirmed		Confirmed			
Total Score - Non-financial factors								***45 (max)***

2. Facility = 20%								
Type - P&I payment	Overdraft		Structured- Quarterly		Structured- Monthly			
Tenor – years	> five		one to five		< one			
Collateral coverage	< 1.25		1.25 – 2		>2			
Collateral type	not liquid		25-50% liquid		50-100% liquid			
Industry sector	high risk		medium risk		low risk			
Other								
Total Score - Facility factors								***20 (max)***
3. Financial = 35%								
Quick ratio	<.75		.75-1.25		>1.25			
Sales growth (past 2 years)	< 5%		5-20%		>20%			
Net margin	<1.5		1.5 - 5%		>5%			
Projected debt service coverage	<1.2		1.2 - 2		>2			
Receivable turnover – days	>120		60 - 120		<60			
Inventory turnover – days	>180		90-180		<90			
Debt leverage	>5		1.5-5		<1.5			
Other								
Total Score - Financial factors								***35 (max)***
TOTAL SCORE								**100 (MAX)**

IMPLEMENTATION GUIDANCE

Lenders that decide to design and implement a scoring model should consider the services of an outside consultant who possesses the proper qualifications and experience. For the larger or more complex projects, consulting firms offer a full line of scoring services. The main goal is to calibrate valid predictive factors and quantify the risks associated with loan repayment.

Once a lender has designed a test Model, prudence suggests that the existing credit process continue to operate parallel with the test Model. Results analysis may lead in key changes to the Model during the test phase, before going “live”. This greatly “oversimplifies” the implementation phase but it does present some guidance.

Bank Comments – Risk Management

The general consensus among credit departments is implementation would only take place after running a test model parallel with the existing process. Such caution is prudent and not unique to Jordan. Furthermore, the writer feels credit departments are generally slow to grasp and approve the use of Models. Running a parallel operation is likely to provide comfort after credit officers are exposed to the model and its benefits.

TRACKING

Almost as important as implementation is tracking carefully how loans perform after credit scores are assigned. A decline in loan quality, for example, should cause reconsideration of predictive factors, scoring values, weightings and quality ratings. Likewise, models using overly conservative assumptions may result in high loan quality but generate low loan volume thereby disappointing clients and endangering both the bank’s expected revenue targets and battle for market share. Like any other Model, credit scoring Models require periodic adjustments or they become obsolete.

ILLUSTRATION

SMALL BUSINESS MODEL

Thus far Jordanian bankers and SABEQ have produced a general scoring Model to assess SME loan requests. Many bankers want to see an illustration of the Model. Other bankers want to go a step further by developing a scoring Model that would assess small loan requests from small businesses operating in a particular sector, perhaps the retail sector. This would be a more focused Model directed at the "S" sub-segment of the SME market of the retail sector. Bankers interested in this approach would use component factors and weightings based on their intimate knowledge of segment and sector risks.[4] This approach has merit as it would:

- Promote use of a scoring model based on a bank's credit strengths
- Follow trends and successful practices observed in other emerging markets[5]
- Allow for volume lending and a larger loan portfolio consisting of small loans
- Permit systematic loan monitoring that can tie into a bank's risk rating regime.

A common theme among bankers is to develop a scoring Model to assess loan requests from pharmacies, a sub-sector of retail. As banks proceed along this path, the resulting Model can be adapted to other sub-sectors of retail where key business comparisons exist such as the timing of the cash conversion cycle. For example, retail vehicle dealers have far different cash conversion cycles, while retail grocery stores may have similar cycles.

BANK AMMAN - LOAN PROFILE AND LOAN REQUEST

For the purposes of this illustration, we assume Bank Amman[6] has developed a product profile for a small, short term line of credit for small business pharmacies. Moreover, the bank has developed a scoring model to assess these loan requests. We further assume Bank Amman has considerable experience lending to small pharmacies and is, therefore, confident in its ability to score loan requests. Bank Amman's loan product profile is shown below:

[4] Bankers should consider performing a file review as described in the Introduction section

[5] The SME Banking Knowledge Guide; IFC Advisory Services / Access to Finance, 2009 Edition

[6] There is no bank with this name

Small Line of Credit

SAMPLE LOAN PRODUCT PROFILE - PHARMACY	
Lender	Bank Amman
Borrower	Owner (s) of one or more pharmacies.
Purpose	- Purchase inventory - Working capital.
Source of Repayment	Sale of inventory: - Conversion into cash - Collection of payments from insurers.
Eligibility & Terms	- Existing & responsible borrowing customer - Total sales up to 500,000 JD, or Total assets up to 250,000, and No more than 10 full time staff on payroll - Delivery of financial and non-financial information for Model - Acceptable credit score - Other (refer to loan policy).
Amount of Loan Maximum Amount of Direct/Indirect Exposure	5,000 to 15,000 JD 30,000 JD.
Terms & Conditions	Refer to loan policy & procedures.
Collateral	- Pledge/assignment of payments from insurers - Pledge of inventory (refer to loan policy) - Other (refer to loan policy).
Guarantees	Refer to loan policy
Fees	.5 - 1% loan application fee .5% loan service fee.
Interest Rate	- Rate to depend on credit score - Fixed or variable rate - Computed on a ____ day basis.
Tenor	Short Term - reviewed after 12 months.
Repayment	Monthly payments of principal and interest.

Bank Amman receives a request for a 10,000 JD line of credit from an existing customer – the Ready Order Pharmacy[7] (Ready Order). The loan application shows the following:

Borrower: Ready Order Pharmacy (Ready Order)
Location: Amman, Jordan

Purpose:
A large increase in sales is expected so Ready Order must expand and buy more inventory. The line of credit may be used to pay rent, utility bills, salaries and other working capital needs.

Eligibility: Ready Order:

- Has been:
  - in business eight years
  - a responsible deposit customer for 5 years
  - using and repaying as agreed a 5,000 JD overdraft facility. It has not borrowed for other purposes.
- Had total assets of 175,000 JD at year end 2009 and a staff of 5 full time employees that produced total sales of 350,000 during the year.
- Meets the Lender's short term credit criteria and has provided financial statements.
- Will pledge/assign receivables including payments due from insurance companies. Other possible collateral includes office machines and inventory. The owner has no real estate collateral – both his pharmacy and apartment are leased.
- Can make monthly repayments of outstanding principal and interest.

[7] Offered as a fictitious company for instructive purposes only

BANK AMMAN LOAN MODEL

Assume Bank Amman uses a special Scoring Model to assess loan requests developed by experts at the bank. We further assume Ready Order's loan request is processed below with scores shown in ***bold italics***:

TWO COMPONENT FACTORS	Score 1	Score 2	Score 3	Max	*Actual*
1. Non-financial = 70%					
Age of business - years	<two	two-seven	***>seven***	3	***3***
Supplier invoices days past due	30+	10- 30	***0-10***	3	***3***
Black list - returned checks	Often	sometimes	***Never***	3	***3***
Bank client – years	<one	one to five	***> five***	3	***3***
Repayments with bank	many late	few late	***no late***	3	***3***
Repayments other banks (N/A)				0	***0***
Payments to wholesaler	many late	f***ew late***	no late	3	***2***
Branch comment – reputation	Poor	fair to good	***very good***	3	***3***
Credit bureau rating (N/A)				0	***0***
Confirmed data – books/records	No	***<75%***	>75%	3	***2***
Total score - Non-financial				24	***22***
Weight				0.70	***0.70***
Score				16.80	***15.40***
2. Financial = 30%					
Current ratio	>1.5	***>2.5***	>3.5	3	***2***
Quick ratio	<.75	***.75-1.25***	>1.25	3	***2***
Payables	>90	>60	***<30***	3	***3***
Sales growth (past 2 years)	< 5%	5-20%	***>20%***	3	***3***
Net margin	<1.5	1.5 - 5%	***>5%***	3	***3***
Projected debt service coverage	<1.2	***1.2 - 2***	>2	3	***2***
Receivable turnover – days	>120	***60 - 120***	<60	3	***2***
Inventory turnover – days	>180	***90-180***	<90	3	***2***
Debt leverage	>5	1.5-5	***<1.5***	3	***3***
Total - Financial factors				27	***22***
Weight				0.30	***0.30***
Score				8.10	***6.60***
TOTAL SCORE				24.90	***22.00***

Please note the following:

- Non-financial and Financial factors are weighted 70% and 30%, respectively, and there is no Facility Component.
- No comparative or benchmark data is available to assess Ready Order's performance relative to its peer group in Jordan. The financial performance of US/Canadian based community pharmacies can be viewed at www.pharmaccount.com/financial.asp but this data is not considered valid to compare with Jordanian pharmacies.
- The model does not weight each factor. The scores are from using the sum totals of Non-financial and Financial component factors multiplied by the respective weights.

Decision and Pricing Matrix:

Range of Scores	***Decision***	***Pricing***
22.4 – 24.9	Approved	Best interest rate
21 – 22.4	Approved	Higher interest rate
18.6 – 21	Hold for more analysis	
Below 18.6	Decline	

Lastly, we assume Bank Amman uses the above matrix for loan decisions and pricing. Ready Order's credit score of 22.0 falls into the "approved at higher interest rate" category. Although the above model and request are hypothetical, a Ready Order type of request should result in approval since the credit score is above the 85^{th} percentile. However, higher pricing is also a reasonable result given Ready Order's score does not reach the 90^{th} percentile.

QUESTIONS

The reader is encouraged to forward comments or questions to kevin.obrien@deloitte.com

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