CREDIT RISK MANAGEMENT IN CONSUMER FINANCE

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1. Introduction

Today's competitive market for consumer credit evolved into its present form slowly but persistently. Along the way, critical structural changes occurred, including entry and expansion of new players and introduction of new risk management techniques. Improved access to credit consumers, and especially more-recent developments, have had significant benefits expanding credit availability to virtually all income classes. Access to credit has enabled families to purchase homes, deal with emergencies and obtain goods and services. Credit cards and instalment loans are also now becoming available to the majority of households.

Going forward with lower risk weighted capital charge advantage given to the retail portfolio under Basel II, it is expected that more and more banks would enter this market segment to reap benefits given the spread of risks. Hence it is useful for the Sri Lankan Banking industry which is in the midst of a paradigm shift to study the evolution of consumer credit market and the various aspects of modern Consumer Credit Risk Management techniques being applied in today's context.

2. Evolution of the Consumer Finance Market

A brief look at the evolution of the global consumer finance market reveals that the financial services industry has long been competitive, innovative, and resilient; especially in the past decade. Technological advances have resulted in increased efficiency and improved scale within the financial services industry and innovation has brought about a multitude of new products.

From colonial times through the twentieth century, most people had quite limited access to credit, and even when credit was available, it was quite expensive. Only the affluent, such as prominent merchants or landowners, were able to obtain personal loans from commercial banks. Working-class people purchased goods with cash or through barter, since banks did not make consumer loans available to the general public.

However, more-intense industrialisation and urbanisation dramatically changed the market for small consumer loans. Urban wage earners are now using credit to help them purchase the vast array of durable goods, consumer items and finance housing repayments. Naturally, this growth in demand fostered increased competition for consumer credit, and, most importantly,
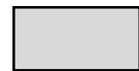
the development of new intermediaries to supply it. Many new organisations that focused exclusively on the needs of consumers entered the field, and the structure of consumer finance began to change dramatically.

Market demand and growing competition among wider variety of lenders spawned further innovation. As early as 1900, some hotels in USA and Europe began offering credit cards to their regular customers. By 1914, gasoline companies and large retail department stores were also issuing credit cards to their most-valued customers. These first cards were simply a convenient way for good customers to overdraw with a particular retail business, since balances had to be paid in full each month. Later versions, allowed customers to pay their bills in instalments, with interest charged on unpaid outstanding balances. This shifted to revolving credit, and another innovation—allowing one card to be used at multiple businesses—later generated increasing competition in the card industry. In the 1950s commercial banks entered into the credit card business. Similarly home mortgage loans, personal loan products also evolved to meet economic challenges in the consumer industry.

2.1 From Corporate to Consumer Lending

Growing demand for consumer credit solutions has evolved the way the financial institutions evaluate and manage this segment. Given the large volumes, from a judgemental lending proposition, the industry has seen a shift towards credit scoring and behaviouralisation to evaluate and approve consumer credit facilities.

Assessing corporate lending proposals is structurally different from large volume driven retail or consumer lendings. The products are more homogeneous in nature (credit cards, housing loans, personal loans), whereas in corporate lending, products are tailor-made to customer requirements. This homogeneity of retail products requires accurate demographic segmentation, so that portfolios can be created for modeling and monitoring purposes. The demographics related to consumer groups create enough scope for quantitative modeling which has become a major function in Consumer Credit Risk Management.

2.2 The Impact of Technology on Consumer Financing Markets

The financial services has been dramatically transformed by technology. Technological advancements have significantly altered the delivery and processing of nearly every consumer's financial transaction, from the most basic to the most complex. For example, information processing technology has enabled creditors to achieve significant efficiencies in collecting and assimilating the data necessary to evaluate risk and make corresponding decisions about credit pricing.

With these advances in technology, lenders are now taking advantage of credit-scoring models and other techniques for efficiently extending credit to a broader spectrum of consumers.

This paper would briefly cover how credit risk management is applied to consumer credits and how the credit models are used to assist decision making in consumer finance.

3. Credit Cycle and Risk Management

Every consumer credit product goes through a credit cycle and the importance of Credit Risk Management is paramount and applies at all levels. Generally the bank management has a concern that the money given would not get returned with interest. The process of Credit Risk Management is a series of mechanism to identify such occurances in advance. This paper would concentrate on how risk management is applied to consumer credit propositions and briefly cover the current evaluation and credit risk management techniques applied by large consumer lending organizations.

Credit cycle refers to the pattern that starts with the customer applying for the credit and ends when the account is closed for whatever reasons. Different phases are involved in the cycle and related to different organizational functions and departments with "risk management" having influence across this cycle with the responsibility for optimizing credit losses against business development.

McNab and Wynn in their book "Principles and Practice of Consumer Credit, Risk Management (CIB publishing) has illustrated the process in figure 1 and detailed below

Figure 1 : Credit Cycle with Risk Management Function

In the Credit Cycle

"Marketing" is responsible for business development, for attracting new customers and for maintaining and extending relationships with "good" customers.

"Application Processing" is accountable for efficient administration of customer applications and undertaking KYC.

"Account Management" is a wide function dealing with customers during the active life of the customer accounts.

"Collections", a customer service unit, is responsible for managing the overdue customers and bringing them back into normal credit cycle.

"Recoveries" manage those accounts no longer considered "customers" where the key objective is recovery of the outstanding debt, in the most cost effective fashion.

"Frauds" cut across all these areas with processes in place for avoidance and detection of fraud at any point.

All decisions made through credit cycle have bad debt risk implications and hence the role of the **risk management** unit is to;

(i) formulate with marketing about new customer identification, eligibility and pre-approved criteria selection
(ii) determine risk parameters for pricing, and packaging of products
(iii) create and audit credit/risk strategies and policies
(iv) limit allocation and overlimit authorisation
(v) develop risk based collection and recovery strategies

In addition, risk management has a key management information role, to forecast bad debt levels and to develop provision methodologies.

To support business areas, the risk management function provides decision tools (typically score-based models) and develops strategies and policy rules around these tools. Monitoring the effectiveness of these tools and refining the scoring models is another important function of risk management.

4. Introduction of Credit Scoring

Previously the credit organisations had relatively simple organizational structure with standard personal banking products and little competition.

The operational staff were handling the products from the branches and were the customer contact points whereas their line managers supervised and handled complex issues. The top management was involved in policy making. However rapid growth in competition from new products and credit providers compelled the organisation to evaluate this process.

The main reasons for introducing credit scoring was to handle the high volumes and improve the trade-off between bad debts and high volumes. Improving the operational efficiency through automation and better portfolio control through monitoring of scoring process are the other benefits contributed to the popularity of scoring system. This was initially started with bank credit cards and private label card issuers, where the characteristics of their products and organizational set up suited scoring; such as high volumes, low-value transactions, centralized operations, little customer contact and good management information system. Although introduction of scoring in the bank's other personal credit products was slow due to small volume / high loan amount and the effort of much personal contact, over the last 10 years, scoring has gradually become an established decision making tool for branch credit, housing loans and personal loan schemes.

Through modeling and using a credit score lenders have the ability to identify that current demographic characteristics, which has a predictive risk profile (ie. forecast how such demographic customers have behaved in the past). This process sets the score and helps to refine it through adjustment.

Since a credit score numerically summarises all available data about a customer, it simplifies decision making process. However, it should be noted that introducing scoring needs changes to the organization structure. Branch driven operations require centralisation and scoring would become an internal communication channel for the management to translate policy into action, allowing them to improve judgement through monitoring of scores.

The challenge is the ability to provide accurate and consistent demographic information to scoring models. This has to be systematic; so that changing nature of demographic segmentation is understood and credit scores are interpreted accordingly.

4.1 Importance of Data in Credit Scoring

Quality and Quantity are fundamental requirements for the success of any scoring model. We do get data from various sources such as Credit Information Bureau (CRIB) or external agencies such as Data-one, Statistics department, etc or through private surveys. In addition, most of such data comes from internal accounts and the original application form as well. Quality, consistency and accuracy of data is important as it directly affects the end result, ie. the score card, as no amount of sophisticated computer programmes or statistical models can overcome inherent limitations of raw data. Inaccuracies can hamper fraud detection, collection effectiveness and payment processing. If an account defaults, then an accurate name and address is fundamental to successful recovery.

The other important factor in developing scorecards is the quantity of data. To develop a statistically robust scoring system, we need a large sample of accounts, both good and bad. Developing scorecards is a complex, statistically driven process and although this paper would not address this, it would focus on risk assessment and management using score cards.

The scorecard development is a scientific and lengthy process either developed in house or outsourced to a third party scorecard development specialist.

5. Principles of Scoring in Credit Risk Assessment

The score is expected to predict the likely risk of non-payment in the future. In arriving at the credit score, applications scoring is the most commonly used method for assessing consumer credit products. It is a statistical model to predict likelihood of future repayment based on the financial institutions own previous experience and comprises a scorecard and a set of statistics for interpreting scores in terms of risk. The model considers all information known about the customer or applicant at the time of application; such information is derived from the application form and credit information bureau / internal data base as a secondary measure. Previous conduct of the account (for existing customers) add another set of vital information for decision making.

The scorecard comprise a set of characteristics (time with bank, years at current address, CRIB status, etc.) and each answer has a statistically devised score (weight). Individual attribute scores are added to arrive at the total score which is benchmarked against the assumed cut-off rate. Below such cut-off levels applicants are declined. The cut-off determines the trade-off between volumes of applications accepted and overall risk of those accepted.

Score is also used in setting product facilities by applying the general relationship between product usage and risk. Financial institutions offer more incentives to the low risk clients to improve usage and take up their products such as low interest rate, priority status, higher limits, etc. Similarly fewer incentives are offered to low scored applicants above the cut off mark. A tight control over potential bad debts are maintained through mechanisms such as the application of a higher interest rate (to reflect additional risk carried), lowering the credit limit, obligatory payments by direct debit.

5.1 Scorecard Monitoring

Since score based lending decisions and performance are based on the policy, it is vital that the policy making process is refined through constant feedback received on the performance of the portfolio. Hence Management Information Systems (MIS) is vital to track such progress.

Tracking derived from scoring is needed so as to understand the overall state of the risk of the portfolio, the effect of current policies and how well the scorecard is working. It is part of the consumer credit risk management function to track the monthly and quarterly report containing

analysis of acceptance rates, application profiles and default trends, which must result in continuously updating and refining the process.

5.2 Scoring vs Manual Decision Making

Manual decision making compared to scoring is less consistent due to different standards placed by different individuals at different times. It requires more people and difficult to effect improvement in the decision making process. Whereas scoring provides the management with a certain flexibility in new account acquisitions as against non performing loan quantum. If management requires a very low NPL position, the cut-off rate can be increased. Similarly the reverse is applied to garner higher volumes to avert expectations of higher NPL figures in the future.

Some lenders use a combination of scoring and manual intervention in their consumer credit management process, to ensure that borderline cases are not neglected.

5.3 Behavioural Scoring

While application scorecard is used for entry level credit evaluation, behavioural scoring is used by the lenders to make ongoing decisions on existing accounts. For the latter it applies a statistical tool to predict future behaviour of the account which is based on historical and current performance. It is far superior than application scorecards simply due to the fact that it is based on dynamic account performance which is computed on a regular basis. While application score cards is a one time decision, behavioural scorecards decision making is more complex for sure.

Behavioural scorecards are typically used for risk decisions in account management, collection and recoveries and marketing selection programmes, which are important areas of a credit cycle.

However, account management scorecards are commonly used to predict future risk on accounts that are current (up todate) and are used so as to manage limits thereby giving flexibility to revise approved limits based on performance.

Collection and recovery scorecards applies to customers who are already delinquent and predict future performance which thereby assist risk based collection and recovery strategies. It helps reduce the collection cost and include strategies that may increase repayment of delinquent accounts, barring closure of lower risk future profitable accounts.

Main advantage of behavioural score is its ability to provide single easily usable value (score) using complex patterns of performance. Simple decision making process helps lenders to better understand the outcome of their lending actions thereby helping to continuously improve their strategies. It provides greater portfolio control, operational efficiencies and improves sales to bad debt ratio. However, it should be noted that the behavioural scoring tools are expensive and demands heavy investment in management, analytical and system infrastructure of the organisation

apart from having a reliable historically accurate database marketwise.

Despite scoring models being expensive, financial institutions operating in high volume areas and those who share the operating/investment cost among its branches have seen cost effective contribution from scoring and it appears that scoring and modeling would be the future of consumer credit assessment.

6. Portfolio Management

High volumes of consumer credit products have necessitated the management of such products on a portfolio basis. It is vital that the banks understand repayment behaviour of their customer in each product category by monitoring levels of delinquency and how they are adjusted based on policy changes. These portfolio effects are caused by changes in the internal account management or changes to external credit or economic environment. Hence it is vital that close monitoring is established on portfolio changes.

The widespread adoption of these models has reduced the costs of evaluating the creditworthiness of borrowers, and in competitive markets cost reductions tend to be passed on to borrowers. Where once more-marginal applicants would simply have been denied credit, lenders are now able to quite efficiently judge the risk posed by individual applicants and to price that risk appropriately.

However, it should be noted that for some consumers, this reliance on technology may be disconcerting since credit-scoring models are complex mathematical models designed to predict risk. There are concerns about the transparency and completeness of the information fit to the models as well as the rigidity of the types of data used to render credit decisions. The lack of flexibility in the models can result in the exclusion of some consumers, such as those with little or no credit history, or misrepresentation of the risk that they may pose.

To address these concerns, some firms have worked to customise credit-scoring systems to include new data and to revalue the weight of the variables employed. Also, new organisations have emerged, developing new systems for collecting alternative data, such as home rent payments and other recurring utility payments that will enable creditors to evaluate creditworthiness of consumers who lack experience with credit.

7. Conclusion

It should be noted that innovation and structural change in the financial services industry are critical in providing expanded access to credit for the vast majority of consumers, including those of limited means. Without these forces, it would have been impossible for lower-income consumers to have the degree of access to credit markets.

Similarly it is also important to enhance financial education. In this increasingly competitive and complex financial services market, it is essential that consumers acquire the knowledge that will enable them to evaluate products and services from competing providers and thus determine which best meet their long-and short-term needs. Financial education builds the skills necessary for making critical financial decisions that affect one's ability to attain the assets, such as education, property and savings that improve economic well-being

Consumerism is growing fast and consumer spending is yet to reach its full potential in Sri Lanka. Those banks with vision and market sensibilities are more likely to suceed garnering the lion's share in consumer spending and become the financier to a wider, more sophisticated market segment than others. It is therefore necessary to change according to the times. If a bank hesitates, it loses !

References

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