YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF COMMERCE

MASTER OF BANKING AND FINANCE PROGRAMME

CHALLENGES OF TREASURY RISK MANAGEMENT IN SELECTED COMMERCIAL BANKS

TINT TINT SHOON WAI

(MBF – 5TH BATCH)

DECEMBER, 2019

CHALLENGES OF TREASURY RISK MANAGEMENT IN SELECTED COMMERCIAL BANKS

A thesis submitted as a partial fulfillment towards the requirements for

the degree of Master of Banking and Finance (MBF)

Supervised by	Submitted by
Daw Htay Htay	
Associate Professor	Tint Tint Shoon Wai
Department of Commerce	Roll No. 74
Yangon University of Economics	MBF 5th Batch

DECEMBER, 2019

ABSTRACT

This study was to specific study objectives were aimed at identifying treasury risk management practices in selected commercial banks and analyzing the challenges of treasury risk management. Financial risk and non-financial risks exist in every commercial bank in Myanmar and hence identifying the challenges in treasury risk management could point out the weakness and requirements in order to improve the treasury business of commercial banks and banking industry in Myanmar. The research tool consisted of structured questionnaire to the selected commercial banks and the study adopt a descriptive research method including the Pearson's correlation to identify the risk factors and challenges of treasury markets for selected commercial banks in Myanmar. This study targeted population of 90 Treasury Officers from top, middle and operational staff levels from treasury department in selected commercial banks in Myanmar. From the study finding, it was evident that recruiting talent treasury people form local market, regulatory requirement and the market conditions (i.e., transparency, pricing, volatility) were stated as challenging factors for treasury business of selected commercial banks in Myanmar.

ACKNOWLEDGEMENT

First and foremost, my thanks go to Professor Dr. Tin Win, Rector of Yangon University of Economics for his concern and encouragement to the participants of the MBF programme. I like to express my thanks to Dr. Daw Soe Thu, Professor and Head of Department of Commerce, for her kind guidance and encouragement.

I also would like to express my thanks to Yangon University of Economics, Department of Economics, Master of Banking and Finance Programme for giving me to do this study. My appreciation and deepest gratitude go to my supervisor Daw Htay Htay, Associate Professor, Department of Commerce, Yangon University of Economics for the support and guidance towards the completion of this study.

I would like to thank my respected professors and lectures who imparted their time and valuable knowledge during the course of my study at the Yangon Universities of Economics, and my friends and all persons who contributed in various ways to my thesis.

My special deepest thanks go to the employees, of the banks in study, who completed and sent the questionnaire which were instrumental to the completion of this thesis.

My thanks to my colleagues from Maha Agriculture Public Co., Ltd for their support and for giving flexible working hours for this thesis.

Finally, I thank my parents and family for their continuous support and patience throughout the course of my study.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AYA	–	Ayarwaddy Bank Ltd
ALM	–	Asset and Liability Management
ALCO	–	Asset and Liability Committee
CB	–	Co-operative Bank Ltd.
CBM	–	Central Bank of Myanmar
FX	–	Foreign Exchange
FOREX	–	Foreign Exchange
KBZ	–	Kanbawza Bank Ltd.
MICB	–	Myanmar Investment Commercial Bank
MFTB	–	Myanmar Foreign Trade Bank
MEB	–	Myanmar Economic Bank
MADB	–	Myanmar Agriculture Development Bank.
NOP	–	Net Open Position
TRM	–	Treasury Risk Management
TMS	–	Treasury Module System
VaR	–	Value-At-Risk

CHAPTER I
INTRODUCTION

The end goal of every profit-oriented organization is to maximize owner's wealth. In fact, banks are one of the major for-profit enterprises and among the various departments present at banks, treasury department is the most important for the growth of profitability of the banks. However, the growth in the profitability come with the high in risk, and this is where Treasury Risk Management (TRM) play as a vital role. For many decades, treasury management has been an important aspect of many financial institutions as in recent years financial risk management has become a priority. Treasury risk is referred to as the risk associated with an enterprise's assets, from money market instruments, all the way to equity trading (Van Greuning, and Brajovic-Bratanovic, 2009).

With the turbulent economic conditions, new challenges in the treasury have been developed, the financial risk management often has the implications of failed financial risk policies. Since the global financial crisis, treasury operations have been significantly more complex. Using a risk management is therefore the most important thing for today's treasury practitioners and financial institutions to re-evaluate their system for financial risk assessment and monitoring, (SunGard, 2012).

Treasury varies from other activities related to finance. The dynamic nature of treasury, with its emphasis on cash, risk and markets, challenges those responsible for it. The sophistication of tools, process and market relationships, both operationally and strategically, mean specializing in some of the skills need for the treasury, (Akhilesh, 2013). The core role of the treasury feature is to advise the board and management on business decisions and financial considerations that are essential to the corporate strategy by securing funding, retaining financing and managing risks, (Akhilesh, 2013).

A bank's treasury department is responsible for the balance sheet of the bank by mitigating risks associated with hedging sensitive exposures; by operating activities such as fund management, collections, disbursements and the investment management with ultimate intention of maximizing efficiency in accordance with the company's business objective in compliance with regulatory framework, (Akhilesh,2013). The crucial function of a treasury operations is to scale up liquidity and alleviate market risks, operational risks and financial risks, (Akhilesh,2013).

1.1 Rationale of the Study

The treasury management and inadequate liquidity has recorded some initial failure on banks by making careless decision or resources utilization and particularly in treasury management, as experts suggest the treasury activities are at highest vulnerability among banking activities. There are a number of risks and threats that could come from the market and from the everyday operating phase. Changes in internal control systems, policies and procedures, routine employee human errors are some examples of organizational risk that could lead to fraudulent and risk management deficiencies in the treasury, (Akhilesh,2013).

There are three essential layers for treasury operations; front office activities, middle office activities and back office activities. The activities should be allocated to each of the layers base on the separate functions of each. For example, front office activities should include the dealing with customers, bankers, while middle office is responsible for the checking of the deal tickets produced by the front office and back office is responsible for the transaction settlements which includes accounting, reconciliations and reporting, (Akhilesh, 2013). The middle's and back office's functions are to ensure the dealers or trader from front office is not committing a mistake (whether on purpose or not) or manipulate the prices of the underlying securities, exchange rates, open positions, mismatches etc., for his or her own interest, (Akhilesh, 2013). History has proven why these processes is mandatory (e.g. Nick Leeson- Barings Bank).

For the past 7 years, since the treasury operations were introduced in Myanmar, the commercial banks in Myanmar have been facing challenges in managing risks in treasury operations. Despite the fact that most of the local banks are thriving for new treasury products and introducing various hedging methods base on the bank's liquidity requirements or income generation in these days, there are no research study on the challenges of Treasury Risk Management in commercial banks. This study is to examine Treasury Management strategies and challenges in selected commercial banks in Myanmar, (Akhilesh,2013).

This study contributes to the bank treasury and risk managers who will gain insight into the importance of financial risk management adherence and its effect on risk mitigation in the operations of banks. In addition, the regulator and policy makers may be provided with useful information which help in designing targeted policies and programs that actively stimulate the growth and sustainability of the commercial banks in the country. Regulatory bodies such as the Central bank of Myanmar can use the findings to improve on the framework for risk management. Furthermore, this study is expected to add value to researcher and scholars as it contributes to the literature on the main challenges on Treasury Risk Management. Hence, this study should encourage banks to focus on the efficient use of treasury products with the effective management in liquidity and asset and liability management in compliance with the regulatory requirement. As well as it will contribute in a positive way to economic and banking industry in Myanmar, (Akhilesh,2013).

1.2 Objectives of the Study

The objectives of this study are as per the following;

1. To identify Treasury Risk Management Practices in selected commercial banks

2. To analyze the challenges of Treasury Risk Management

1.3 Scope and Methods of Study

This scope of study emphasizes on 3 private banks among 27 domestic banks and 13 foreign banks, there are 19 Banks which has "Authorized Dealer license" to operate treasury functions by Central Bank of Myanmar in 2018. The study conducted on 3 commercial banks; Kanbawza Bank Limited, AYA Bank Limited and Co-operative Bank Limited as top three biggest bank ranked by the market share of the banking industry.

This study focuses on Treasury Risk Management in head offices of selected 3 commercial banks in Yangon, Myanmar as mentioned above. The descriptive research method was used in this research and the quantitative analysis is mainly applied and both primary and secondary data are used. Primary data was collected by interviewing and questioning the bank staff in treasury and risk departments by using structured survey questionnaire. There were total 90 questionnaire, distributed to the respondents who are working in treasury department of the selected banks. As the number of employees at the treasury department of each selected bank are not the same, the questionnaires were distributed according to the available number of treasury officer at each bank 24 treasury staff from KBZ, 35 treasury staff from AYA Bank and 32 treasury staff from CB Bank. The primary data were collected by sending questionnaires through emails and personal visits. Questionnaire survey method was based on Likert Scale Method. The questionnaire is essential tool for empirical research study, which is adopted for our data primary data collection. Secondary data were collected from different published resources of report, research papers, articles and news from the internet, information from the Central Bank of Myanmar and respected Banks.

1.4 Organization of the Study

This research study had been organized in five different chapters. Chapter 1 includes the introduction, rationale of the study, objective of the study, scope and method of the study and organization of the study. Chapter 2 provides literature review of Treasury Risk Management which highlighted the key function, the risk factors and the challenges involved in history of treasury operations in global financial institutions. Chapter 3 identifies the background information of selected commercial banks together with their treasury department structure, people, systems and procedures to determine the internal and external challenges of the bank’s treasury operations. Chapter 4 consists of the analysis on the data collected from the respondents of questionnaire, which supports in identifications of major challenges factors and thus meets our objective. Chapter 5 concludes the study with findings and relevant suggestions for further research can be made.

CHAPTER II
THEORETICAL BACKGROUND OF TREAUSRY MANAGEMENT

This chapter focuses on a review of relevant literature of deeper understanding of treasury risk management. We included three main sections; the first section presents the background of treasury management and various risk factors in treasury. The second section focuses on the basis treasury operations structure and terminology, followed by the last section which included the key risk indicators in treasury management.

2.1 Background of Treasury Management

The classic role of treasury department in financial institution is providing investment activities include meeting regulatory requirement, managing liquidity, identifying and hedging foreign exchange exposures, mitigating counterparty risk etc. Additionally, treasury units should also concentrate on coming up with alternative sources of income to compensate the losses caused by non-performing loans and adverse movements in foreign exchange exposures (Halimeshi, 2014). The treasury department's popular risks include liquidity risk, market risk (i.e., foreign exchange risk and interest rate risk), operations risk and credit risk etc. Among various tasks of treasury department, cash management is one of the most important tasks including cash forecasting and control of working capital. In addition, treasury department handles the deployment of the excess or idle funds at minimum level of risk as much as possible. Experts believe that treasury operations are the most vulnerable banking activities and are potentially exposed to a wide range of risk and challenges arising from various financial, business and operational risks, (Halimeshi, 2014).

Darrell .D's, (2010) article in the Journal of Economic Perspectives said, during the financial crisis of 2007-2008, the major dealer banks in the securities and derivatives intermediate markets suffered from new forms of bank runs. The clearest examples are the collapses of Bear Stearns and Lehman Brothers in 2008, whose collapse may cause the significant economic damage as they are main components of financial organizations. Big dealer banks such as Morgan Stanley, Goldman Sachs, and Bear Stearns have a large asset-management division that provides institutional and affluent individual clients with investment needs. The service provided is primarily the holding of client securities, cash management, brokerage, and alternative investment vehicles, such as hedge funds and private equity partnerships., (Darrel, 2010).

(i) Treasury and Corporate Strategy

Corporate strategy is the blend of business strategy and financial strategy. Business strategy means the course of action, including the resource definition required to achieve a specific objective, whereas the financial strategy specifies optimum funding, hurdle rates, dividend policy, financial market risk in which sector to collect debt or equity and counterparty limits. Treasury plays a key role in the financial strategy of the company by finding out how to fund the business strategy and how to handle its risk. Hence, the treasurer must consider the sources for corporate funding among three primary sources of funds as per the following,

a) The use of an organization's own cash reserves generated from accumulated surplus;
b) Debt funding and
c) Equity

Equity is the best option among these three sources of funding, as it requires lower costs compared to debt financing costs and deposits (own surplus), (CGMA, 2017).

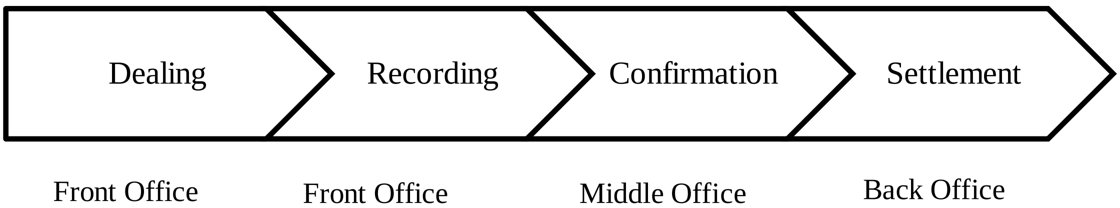
(ii) Business Operations and Stakeholder Relations

To be an effective treasury, a thorough understanding of the organization's business model and its industry is essential. Building strong relationships with internal and external stakeholders is critical for a treasurer to build credibility and confidence in treasury and financing operations. (CGMA, 2017). External relationships include, regulators, shareholders, borrowers and credit agencies, lenders, accounting and systems providers, while organizational relationships should maintain with HR, IT, M&A, Business units etc. Furthermore, relationships with financial functions such as relationships with CFO/Board and Board Committees, management accounting should also be maintained, (CGMA, 2017).

(iii) Treasury Operations and Controls

The internal controls must be taken into consideration of treasury as the role of treasury is too fragile and specifics of internal controls and reporting systems are needed. The general procedure for internal control in treasury should include; prior authorization and approval of financial transactions by appointed authority, division of duties, documentation procedures, so that no transaction is missed or reported more than once, system and database access protection, record reconciliation and testing, measurements, reporting, internal audit. (CGMA, 2017)

Figure 2.1: Segregation of duties in the dealing process.



Source: CGMA, Treasury and Cash Management Essentials, 2017.

(iv) Definition of Value-At Risk

Value at Risk (VaR) is a statistical metric which estimates the maximum possible loss over a fixed period of time, usually one day, resulting from an adverse market movement that is expected to occur once in a longer period of time, usually one hundred days, within a confidence interval, typically 99%. Although the implementation is less, the concept of VaR is clear and simple. The main shortcomings of a VaR calculation are: historical volatilities and correlations may not be indicative of the future ones; lack of liquidity of some instruments is not taken into account; confidence intervals are only statistical estimates, and not only can a firm lose more than the Value-at Risk, it can lose more on certain occasions, (CGMA, 2017). The development of VaR models was the methodology of Risk Metrics, first published in late 1994, (Arya K. and Akhilesh T., 2013).

(v) The Role of Regulators in Risk Management

The international organization of Securities Commission's Emerging Market Committees mentioned in their final report in November 2018 that regulators' role in risk management is to acquire a set of rules and requirements that can contribute effectively to preventing an isolated failure or a small-scale crisis from becoming a systemic problem threatening the market as whole at the lowest possible cost.

Regulatory bodies in this case have recognized VaR models as strong predictors for the provision of potential losses and these models will be adopted by banks and securities firms as of the end of 1997 for the purpose of calculating capital charges, (Erik H. and Viktor A. 2012).

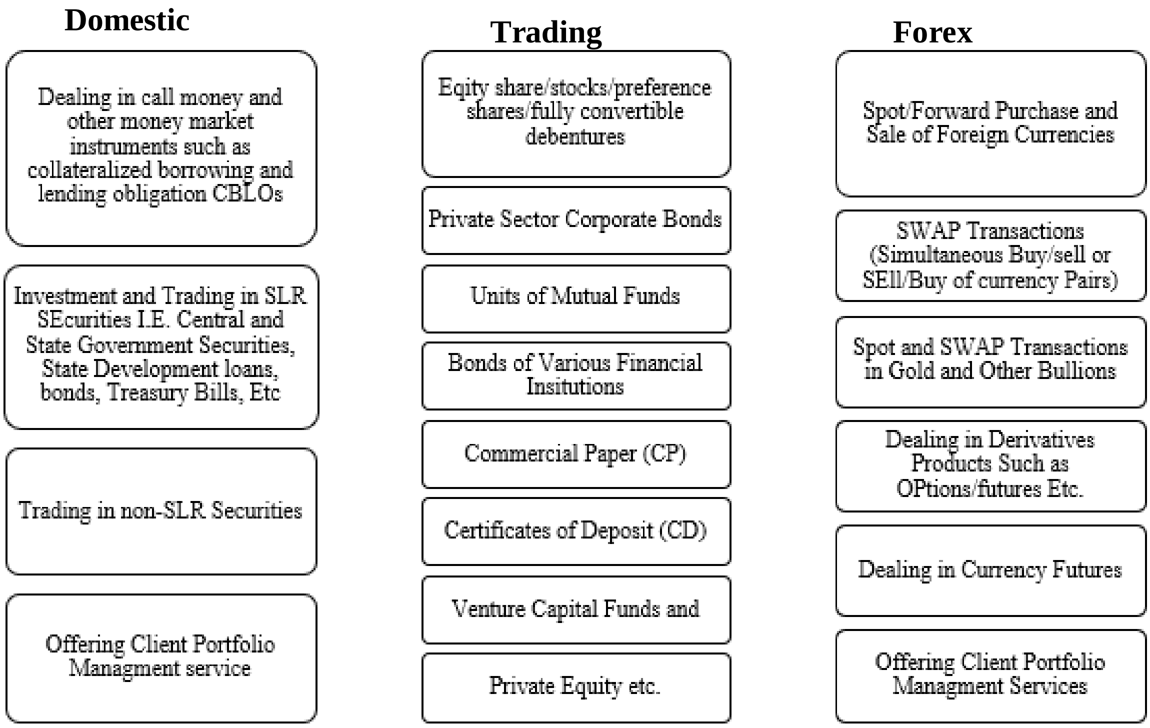
The main areas of risk management focused on regulators are: settling capital reserves rates, intervening in the FX market in terms of liquidity criteria and FX volatilities, disclosure of data and information on market value of financial instruments and risk policies, and audit of company books and financial records and internal controls, integrity and soundness of the models and accounts segregation, (Erik H. and Viktor A. 2012).

2.2 Structure of a Treasury Department

The three fundamental layers for the running of the treasury department are the tasks of the front office, the middle office and the back office. The financial institution's treasury departments reduce the operating risk by aligning the SOPs and policies/ procedures that distinguish the respective activities and transactions for the respective layers. The SOPs should clearly specify the job role for each unit and ensure that their roles or activities do not overlap, (Akhilesh, 2013).

Functions of Front Office: The activities from front office are initiated by the traders and dealers to conduct the main three component of treasury operations. The three components are to meet statutory requirements via maintaining Statutory Liquidity Ratio (SLR), Cash Reserve Ratio (CRR) and Liquidity Management (deposit and placement money in money market etc.) (Akhilesh, 2013).

Figure 2.2 Front office Activities



Source: Arya and Akhilesh, May 2013, Challenges in Operational Risk Management

Additionally, front office dealers and traders conduct the deals in forex to meet bank's proprietary and to fulfil its customers' demands as well. In forex trading of treasury includes both local and foreign currency exchange by undertaking the deals in interbank forex markets and money markets, (Akhilesh, 2013).

Functions of Middle Office: "Middle Office play a vital role in establishing effective interaction with the front office and back office", (Arya and Akhilesh, 2013). Middle office's role is to control the transactions and operations of treasury with internal record and references for execution, settlement, the details of counterparties, transaction process, reporting and accounting etc. In fact, the middle office act as a monitoring and ensuring the transactions initiated from front office are fully conducted till settlement. Monitoring process includes; the transactions amounts are not over breach limits such as net open position limits, to keep minimum reserve requirement ratio, currency exposure limits and brokers/dealers' limits. Overall, middle office activities are mainly conducted to ensure risk management by monitoring the various risk management exercise such as liquidity risk management, interest rate risk analysis, Scenario Analysis, VaR, Duration, Modified Duration etc., (Akhilesh, 2013).

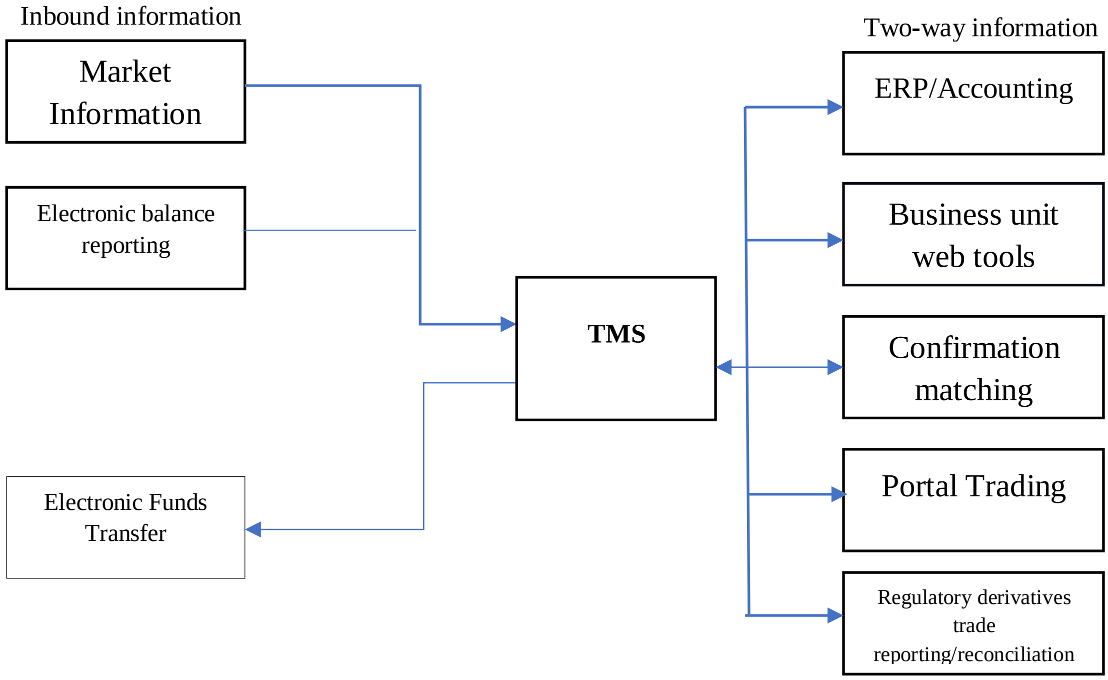
Function of Back Office: The activities responsible by back offices are to assure that each and every transactions are in conformity with the mandate given by appropriate authorities, contracted and executed as per laid down norms, instructions and procedures set by the banks, to ensure the reporting, reviewing, accounting of transactions are in accordance with the specified instructions and to strictly adhere the different regulatory and compliances regulation or guidelines, (Akhilesh, 2013).

Treasury Module System used in Treasury

Treasury Module System is utilized in the financial institutions with centralization of treasury transactions. By utilizing the software (Treasury Module System), the banks can maintain full control over payments, cashflows and operational issues through embedded workflow and approval procedures. The benefit of the centralized treasury organization with the treasury module system is the outcome of improvement in liquidity and risk management and internal controls with the greater transparency. Furthermore, it can fully prevent the fraud with the strong trace and back-up systems for every treasury related transaction and deal. (Petr Polak and Ivan, 2010).

Most of the large organization, especially banks are having Treasury Management Systems according to structure shown the figure 2.3 below, to manage and record all the treasury related transactions. The Treasury Management System of the organization act as the heart of treasury technology infrastructures. Treasury Management System facilitates the processing and management of specialist information, provides secure information through workflow controls, defines user rights, ensuring the segregation of duties, provides an audit trail and produces treasury reports and accounts for treasury transactions, which under International Financial Reporting Standards (IFRS) and equivalent local standards may be complex, (Akhilesh, 2013).

Figure 2.3: Typical System used in Treasury



Source: CGMA, Treasury and Cash Management Essentials, 2017.

2.3 Key Risks in Treasury Management

In a financial industry, there are three broad categories of risks; financial risk, business risk and operational risk. Financial risk arises from the business activities of the banks, while business risk and operational risk relate to the bank's internal affairs. In this respect, liquidity risk is classified under the financial risk category along with credit risk and market risk, (Halimeshi, 2014). Effective and efficient risk management techniques assist banks in mitigating the liquidity risk that they face. This requires proper contingency preparation, which is extremely important, if management has selected stable or unpredictable sources of funding or a variety of sources of funding. There are no set rules for the planning for liquidity because it may differ between banks depending on their financial structures. For example, a bank with stable and predictable cash-flows might not need a complicated tool for liquidity planning, (Halimeshi, 2014).

There are some important determinants of good risk assessment. Insufficient understanding of risk resources, causes and too much faith and undue reliance on risk models, are the outcome of poor risk management (Sinha, 2012). Hence, strengthening of risk culture, risk awareness and appreciation for invigorating risk exposure vis-à-vis risk management is necessary, (Sinha, 2012). The availability of timely and better-quality information to reduce the element of surprise. Additionally, the availability of data, data analysis tools such as simulations, scenario analysis along with people processing specified skills for converting these raw data into risk measurers. Another issue relates to deciding severity of risk. For example, if the risk being assessed is exposed to a business line or regular basis, such as price movement, which can result impacts on organization's earning or market value of the assets on a historical basis, (Akhilesh, 2013).

(i) Liquidity Risk Management

The liquidity management is a one of a key banking functions and an integral part of the asset liability management process. Liquidity problems hold the vulnerability of banks, and on an institution-specific level and from a systemic/market viewpoint, (Hennie, 2009). Liquidity risk management is the heart of confidence in the banking system, the importance of liquidity transcends the individual institution, as a shortfall in liquidity can lead to industrial wise consequences. The task of maturity mismatching by transforming the terms of its liabilities respect to different maturities of its assets of the balance sheet is what banks are for, (Hennie, 2009).

The implication of liquidity risk for a bank is the position when the bank has insufficient funds on hand to meet its obligations, (Hennie, 2009). In order to manage liquidity risk, banks normally have asset-liability management committee (ALCO), which main purpose to oversee the interrelationship between liquidity, asset maturity mismatches and credit risk exposures on its balance sheet (Hennie, 2009). The key challenges for liquidity management are; foreign currency aspects, the regulator's methodologies of liquidity regulations or guidelines and the structure of funding, (Hennie, 2009).

(a) Foreign Currency standpoint in liquidity management

Holding multiple currencies on the balance sheet can lead to huge complexity of liquidity management, especially when the local currency conversion is costly. In such cases, the bank may find it difficult to raise funding or converting the foreign currency assets. Hence, the strategy for liquidity management of each currency and the solution to meet the funding requirements need to be a main concern of the bank. Additionally, the bank should have a back-up liquidity strategy for circumstances or separate contingency plan in which its usual approach to liquidity funding is disrupted depend on the size of its foreign exchange operations and its portfolio in each currency. (Hennie, 2009).

(b) Regulators Supervision on Liquidity Management

The supervision of regulators is focused on the independent evaluation of a bank's strategies, policies and procedures and its practices related to the measurement, monitoring, and control of liquidity risk. Typical liquidity regulations and guidelines includes; a limit on the loan-to-deposit ratio, a limit on the loan-to-capital ratio, guidelines on sources and use of funds, liquidity parameters, liquid asset should not fall below "X" percentage or be higher than the "Y" percentage of total assets, a percentage limit on the relationship between the projected funding needs and the resources available to meet those needs and limits on the minimum/maximum average maturity of different categories of liabilities (Hennie, 2009).

(c) The Structure of Funding

Funding requirement has always been the essential fundamental for the liquidity management, and hence the structure of funding is a main aspect of liquidity management. A various range of deposit product base is more likely to have a strong liquidity position than which has lacking such a deposit base. The deposit from customers normally have the lowest funding cost compare to the debt funding and other capital financing. Another source of funding to explore is the interbank funding, i.e., placement and deposits in the interbank money market, (Hennie, 2009).

Nevertheless, a bank should not depend on the single source of funding because it can lead to enormous problems once the large depositor withdrew the money. Thus, most banks closely monitor their funding structure and the concentration of depositors to avoid excessive dependence on that particular source of fund. (Hennie, 2009).

(ii) Counterparty Risk

Counterparty risk is something the treasury department need to emphasis on in order to prevent the damaging effect on the cash flow management, (Hennie, 2009). The different types of funding come with different level of risk. For financial institutions and banks, the funding through each other means holding the counterparty risk of third party that can default on their financial obligations, (TFG, Treasury

Management Hub, 2019). Counterparty risk management includes creating the specific policy and procedure with regard of investments and deposits. Additionally, it should involves monitoring and assessing the borrowing and lending with other financial institution, (TFG, Treasury Management Hub, 2019).

(iii) Operational Risk

The key concerns on operational risk includes, financial controls, inefficient segregation of duties and responsibilities. There are three main aspects to focus in operational risk, people, process and system. Process related risk factors are usually associated with workflow and process encompassing; variable flow, under-resourcing, pressure points, disruption, lack of knowledge, unnecessary complex procedures and cross-border process (Arya Kumar, 2013).

Internal control is a process intended to provide reasonable assurance of achieving effectiveness and efficiency of operations, reliability of financial reporting and compliance with applicable laws and regulations. Controls can be either formal or informal. Formal reviews include manuals of rules, processes, structure, and regulations, (Hennie, 2009). Informal controls include ethics, competence, morale, trust, skills, leaderships, processes, culture, information, resources, measurements, policies, communication, teamwork, and procedures, (Hennie, 2009).

(iv) Credit Risk and Market Risk

The risk of loss due to a debtor’s default in its obligation for a loan or other line of credit (either the principal or interest/coupon or both). An exposure of a company can be changed if the company use derivatives as the market price of the underlying derivative changes. Market and credit risk are the most important types of financial risk. Market risk is the risk that the value of an investment will decrease due to moves in market factors, the market risk is mostly used as the risk interchangeably with price risk. Additionally, market risk is the risk to earnings or capital arising from changes in the value of portfolios of financial instruments, (Akhilesh, 2013).

(v) Currency Risk

The risk posed to the business from volatility of FX prices and interest rates in market, is the core responsibility of treasury management. The foreign exchange currency risk is the main price risk for most treasuries, as all the business with international sales or procurement will generate FX exposures, (DBS, 2017). Hence, optimization of hedging strategies should be in place for the treasury professional, to prevent the FX risk, price volatility. In addition, visibility into cash, exposures and market condition (Rates and prices) are other factors for treasury professionals to provide better decisions in managing currency risk. Dealers are exposed to market risk to the degree to which they have unhedged exposure related to consumer contracts or proprietary positions. The degree of price risk depends on the price sensitivity of the derivative instrument and the time it takes to liquidate or offset (close) the position. Price sensitivity is generally greater for instruments with leverage, longer maturities, or option features. (Petr Polak and Ivan, 2010)

(vi) Interest Rate Risk

Interest rate risk occurs when the maturities of assets and liabilities of a company are mismatched and researches defines the interest rate risk as the risk that the cost of interest for borrowings will increase or the returns from deposits will fall as a result of movements in interest rates, (Hakansson and Aberg, 2012). In other words, the interest rate risk is the reinvestment risk which can be affected by an increase in increase rate on a financial institution’s profits when the maturity of its assets exceeds the maturity of its liabilities, (Saunders and Cornett, 2007).

The area of Treasury and investment business line has been selected because of researcher’s hands on experience of working in a Treasury and Investment Departments of a major Private sector Banks and Foreign Bank Branch in n Yangon, (Saunders and Cornett, 2007). In addition, while reviewing literature, the researcher has not come across any research or study discussing the challenges in treasury risk management of banking industry in under developed market like Myanmar. Base on the lack of research studies to capture the challenges on treasury risk management in banks, the researcher has undertaken this research to assess and identity the most important risk contributor in the area of treasury and investment business line of a bank and its challenges in risk management, (Saunders and Cornett, 2007).

CHAPTER III
PROFILES AND TREASURY RISK MANAGEMENT PRACTICES OF SELECTED COMMERCIAL BANKS IN MYANMAR

This chapter includes the background profile of selected commercial banks in Myanmar, overview of treasury department and treasury operations practices of selected commercial banks. It also presents how many of commercial banks in Myanmar are operating treasury transaction and how they management the particular treasury related risks. The information which appear in this chapter are based on information and materials from news and survey as well as it is based on the selected commercial banks' reports and websites.

3.1 Overview of Banking Sector in Myanmar

The regulatory body for the banks in Myanmar is the Central Bank of Myanmar founded in 1948 as the Union Bank of Burma acts as the country's central monetary authority. Central Bank of Myanmar is responsible to control the price stabilities in domestic market and to preserve the internal and external value of the Local currency (MMK, the kyat). In accordance with its aim, the Central Bank also ensure to attain such objectives so as to promote efficient payments mechanisms, and the liquidity, solvency, and proper functioning of a soundly based financial system and to foster monetary, credit and financial conditions conductive to the orderly, balanced and sustained economic development. (CBM, 2015)

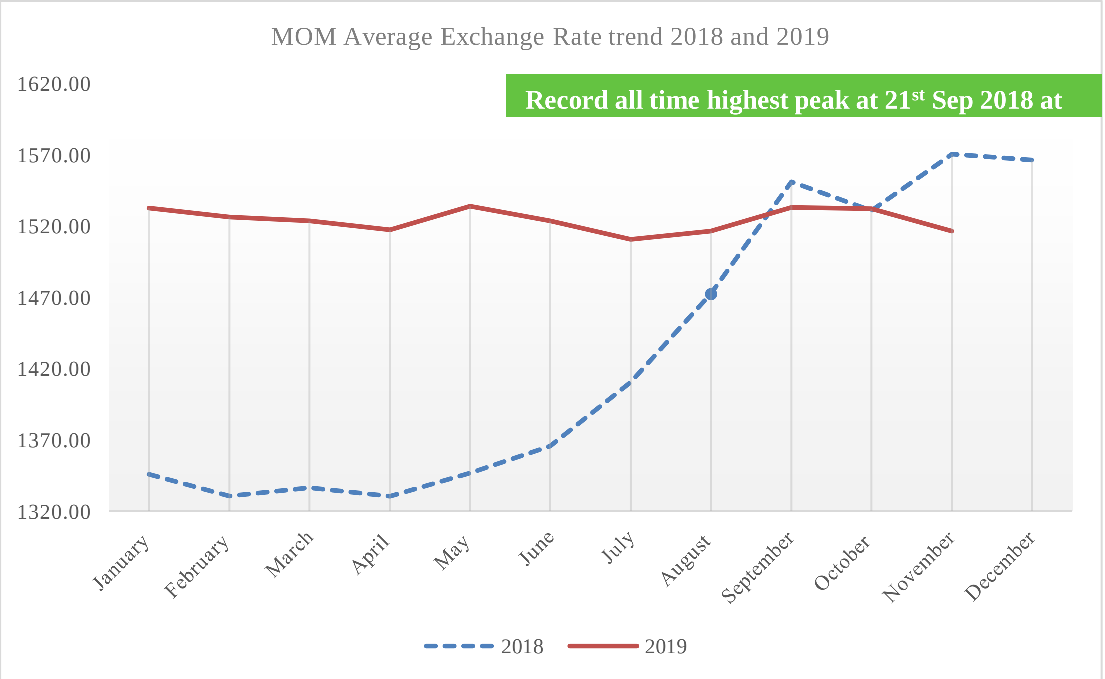
After 2010 election which come along with the aggressive reform agenda for some international expectations, the Banking-sector development in particular has become a major focus of recent reforms in Myanmar. In order to create the well-functioning financial sector which plays as a vital role to enable the growth of the private sector, (GIZ, 2018). The initiatives for the reforms included both policy reforms and investments in the payment infrastructure. The government of Myanmar has enacted several new laws, including the Foreign Exchange Management Law in 2012, the Central Bank of Myanmar law in 2013, and the financial institution law in 2016, (GIZ, 2018). According to published review of the banking sector in Myanmar by Milken institute, these new laws ended Myanmar's system of dual exchange rates, established central bank independence, and set strong prudential standards for the banking sector, (GIZ, 2018).

The four main prudential regulations emanated from the Financial Institution Law: Capital Adequacy Regulation, Asset Classification and Provisioning Regulation, Large Exposures Regulation, and Liquidity Ratio Requirement Regulation, (GIZ, 2018). Additionally, the International Financial Reporting Standards and the International Standards on Auditing were introduced and adapted in Myanmar in 2009, which will be fully applicable in reporting systems by the fiscal year 2022-2023, (GIZ, 2018).

Among those reforms and initiatives, Management of foreign exchange is one of the particular concerns for Myanmar's economy. The new Foreign Exchange Management Law liberalized the foreign exchange market and lifted all restrictions on transactions in the current account of the country's balance of repayments, (GIZ, 2018). The Central Bank of Myanmar applied different types of measures to stabilize the currency exchange rates and instructed to the banks with authorized dealer licenses to conduct the spread of buy rates and sell rates within 0.8% of the CBM reference rate after the historical devaluation of Myanmar Kyats in September 2018, (GIZ, 2018), which was later removed by the Central Bank of Myanmar in late early 2019. The purpose of the 0.8% band by CBM is to have a larger exchange rate flexibility as to absorb external shocks and strengthen the country's international position, (GIZ, 2018). Furthermore, the CBM revoked new instruction on February 4, 2019 in regards of the "Establishing Market-based Reference Exchange Rate" which specified; (a) CBM will compute and publish daily reference Exchange Rate based on transactions in the foreign exchange market, (b) the resulting reference exchange rate for USD and other currencies will be published on the website of the CBM at 16:00 hours, (c) the banks to report the FX related transaction on timely manner fours times a day via ERS reporting system (d) the banks fail to comply with the instruction and if there is any evidence of market manipulation is observed will impose appropriate penalties by the CBM, (CBM, 2019).

The currency exchange rate plays a vital role in an economy, as it links the domestic economy with the other foreign counties thorough trading of goods and services. Since April 2012, Myanmar has a managed floating exchange rate system, replacing the previous peg to the IMF's special drawing right (SDR), while the Central Bank of Myanmar (CBM) tries to influence the exchange rates of the local currency (MMK) by setting reference exchange rates in terms of other currencies following daily foreign exchange auctions conducted with local banks that holds authorized dealer licenses and allowed all foreign exchange dealers to purchase and sell within the prescribed bands. CBM issued an instruction letter on 11 May 2014 which states that all money-changers including local banks have to buy and sell foreign currencies within (+/-) 0.8% of CBM reference rate. As well as, CBM set a net open position (NOP) of 30% in order to avoid liquidity shortage problem in the market. Once the NOP is over 30% of its core capital, the bank has obligation to sell the surplus foreign currency to CBM in the auction in the next working day. (GIZ, 2018) On 11 February 2019, CEM announced the new net open position limit for all authorized dealer licensed banks, to keep the short position/long position within (+/-) 20% of its core capital and the surplus balance should not be maintained more than two days.

Figure 3.1: Currency exchange rate Trend of Myanmar Kyats against USD comparison of 2018 and 2019



Source: CBM, 2019

Above figure 3.1 shows the stability of local currency exchange rate against US dollar after Central Bank of Myanmar's intervention in 2019 compare to 2018. Overall, the CBM is taking necessary steps and initiatives to stabilize the exchange rates and addressing the exchange rate issues. Furthermore, those steps need to be well-articulated, sustainable and consistent program for a longer-term solution. There are short-term measurers which can fix the issues quickly such as supervision on money-changers, but it will not produce the required long-term solution and yet could create the on-going process towards a market -orient economic system. The short-term solutions could lead to the results in undermining the financial system by driving the foreign exchange business into the black market, hence, this is essential and the CBM need to adopt a sound monetary policy to stable exchange rate system for the country in the long run. (GIZ, 2018).

(i) Structure of Domestic Banking Sector

Today, there are 27 domestic banks operating in Myanmar as of November 2019. This number includes four state-owned banks, three banks owned by municipal governments, 10 semi-private banks that trade privately but are partly owned or closely linked to, government agencies, and today there are 13 foreign licensed banks and 49 foreign bank representative offices in Myanmar, (GIZ, 2018). The table for list of banks in Myanmar banking sector are shown in the Appendix B.

3.2 Profiles of Selected Commercial Banks

The 27 domestic banks held assets worth 48.5 trillion MMK (Approximately 35.6 Billion USD) which is about 67% of total bank assets. (GIZ,2018). The study conducted on 3 largest commercial banks; Kanbawza Bank Limited, AYA Bank Limited and Co-operative Bank Limited as those are the top three biggest banks ranked by the market share among the 27 domestic banks, (GIZ, 2018). Hence, the study focuses on the challenges in treasury risk management of these three banks.

(i) Profile and Background History of KBZ Bank

As a private bank, KBZ Bank was first established on 1st July 1994 according to the permission of Central Bank of Myanmar Law and the Financial Institution of Myanmar Bank Law in Taunggyi, Southern Shan State. The name Kanawha is related to a traditional name of the Shan State, an ethnic minority state of the Republic of the Union of Myanmar, (Zaw Soe Khaing, 2018). U Aung Ko Win, the bank chairman, managed and performed banking operations under guidance of CBM. In November 2011, the Central Bank of Myanmar issued KBZ Bank an Authorized Dealer License (ADL) as the first step towards the activity of the foreign banking business, (Zaw Soe Khaing, 2018). In April 2000, KBZ headquarters was relocated to Yangon the business capital of Myanmar. In November 2011, the Central Bank of Myanmar granted an Authorized Dealer License (ADL) to KBZ Bank as the first step to operate foreign banking business. Currently, KBZ bank has more than 500 branches across the country. Starting with an initial capital of Myanmar Kyat 477 million in 1999, KBZ Bank has expanded the capital of MMK 365 billion in the year 2018. KBZ bank will maintain a continuous growth in financial industry along with the development of Myanmar, (Zaw Soe Khaing, 2018).

KBZ bank is the first local bank in Myanmar which have expanded internationally with representative offices in Singapore, Thailand and Malaysia. With 18,000 Staff, more than 500 branches including mini branches and 40% market share of both retail and commercial banking. In order to have financial inclusion throughout Myanmar population, it is widely promoting KBZ Pay, mobile money services, with regional sale blitz events, (Zaw Soe Khaing, 2018). The bank contributes its massive effort for the strength of banking sector, which is important for a country's development, and it has been the highest corporate tax payer for six consecutive years, (Zaw Soe Khaing, 2018).

The following are Vision, Mission and Core Value of KBZ Bank. Vision: To become Myanmar's premier bank with a wide variety of products and services for commercial and private customers and tries to get the customer's satisfaction through the following mission statement.

i. To ensure the highest level of customer satisfaction and trust by providing excellent banking services
ii. To ensure the highest level of customer satisfaction and trust by providing excellent banking services.
iii. To continuously improve quality of our financial services through innovative thinking, investment in new technology and enhancement of human capital.
iv. To offer rewarding career opportunities and promote staff accountability at all levels
v. To act as a responsible corporate citizen by combining commercial pursuits with ethical business practices and socially responsible behavior.

The Core Values of KBZ Bank is to be guided by a belief and a culture that runs throughout the entire organization: being good to people and doing the right thing, (Zaw Soe Khaing, 2018). That is why they are driven by three values – loving kindness, perseverance and courage, and hence the bank's Motta is "Strength of Myanmar", (Zaw Soe Khaing, 2018).

(a) Financial Services of KBZ Bank

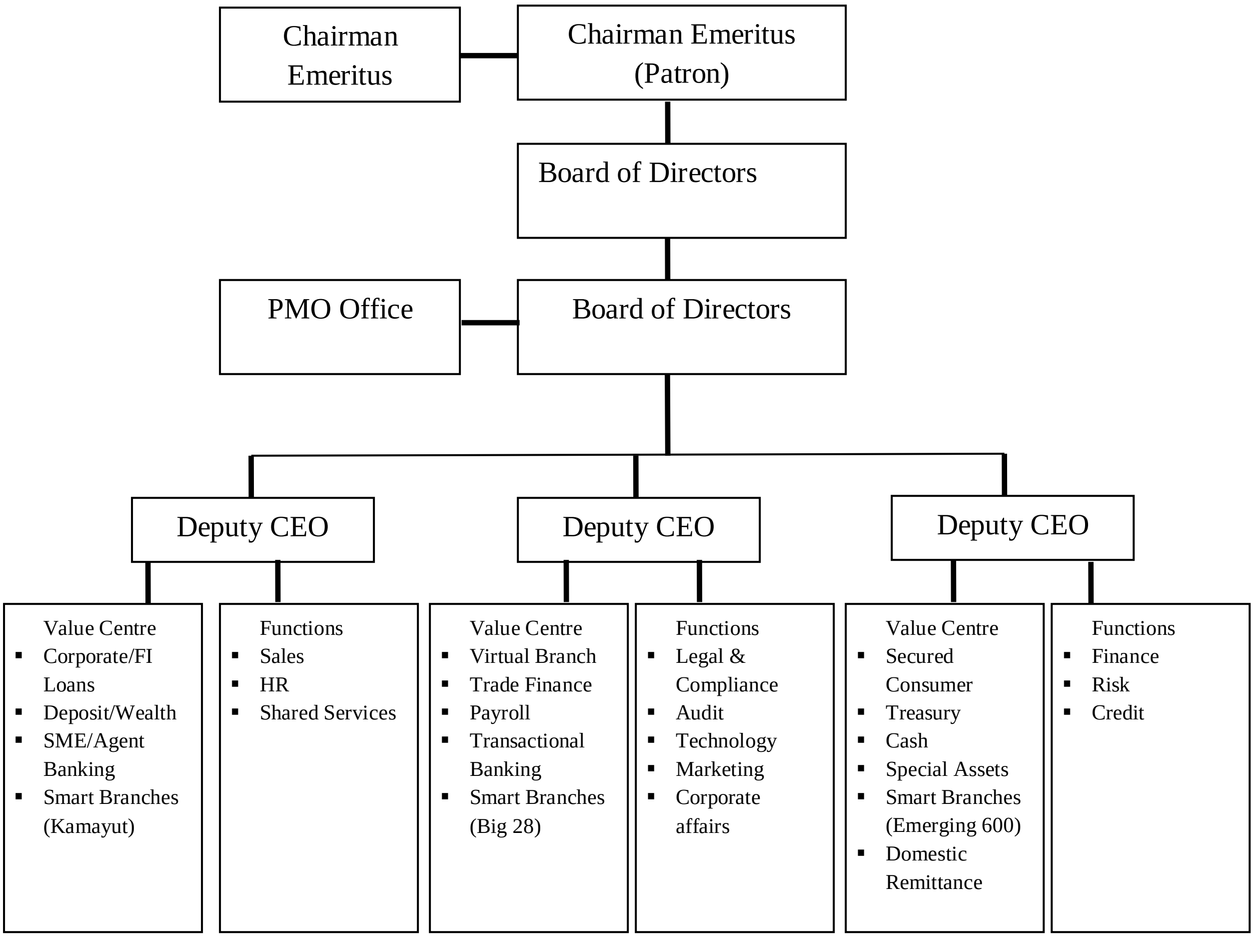
As the largest bank in Myanmar, KBZ has variety of financial and banking products and services. Basically, saving deposit accounts, escrow accounts, foreign currency accounts, current accounts, children's saving accounts, and call deposit accounts, (Zaw Soe Khaing, 2018).. The company's lending lines include hire purchase loans for account holders, SME business owners, and organizations; loans and overdrafts; trade finance; and prepaid and debit cards, (Zaw Soe Khaing, 2018). Additionally, gift cheques, currency exchange, safe deposit lockers, online banking and e-commerce services; cash management services; including payroll, payments, and collection services; remittance services; bank certificates; payment orders; and procurement services are provided for the ease of its customers, (Zaw Soe Khaing, 2018).

The treasury products that are available it KBZ Bank includes; FX spot, FX forward, and FX option. FX Spot: KBZ Bank's customers can use the foreign exchange service to buy and sell for spot delivery, (Zaw Soe Khaing, 2018). FX Forward is for the customer who need to hedge the foreign currency rate in the future delivery date. FX option is for the customers who are using international banking services, this product is provided to the selected customer as it has high risk exposure, (Zaw Soe Khaing, 2018).

(b) Organization Structure of KBZ Bank

KBZ Bank has restructured a new organizational structure after Mr. Mike DeNoma was appointed as special advisor and CEO of KBZ bank in May; 2017. It was established by advisory panel mainly by Chairman Emeritus, BOD and senior officials. The composition of Board is formed with Chairman Emeritus, Chairman, Vice Chairman (1), Vice Chairman (2) and CEO, the executive directors have been promoted as deputy CEO (1) and Deputy CEO (2), Deputy CEO (3), and Senior Officials are Deputy Chairman, Sr. Managing Director, Managing Directors and Deputy Managing Directors, (Zaw Soe Khaing, 2018). The Organization Structure of KBZ Bank is shown in the figure below;

Figure 3.2. Organization Structure of KBZ Bank



Source: Zaw Soe Khaing, 2018.

There are many departments and branches at KBZ Bank. Each department has assigned head of department and branch manager for every branch. As per the new organization structure, U Aung Ko Win is assigned as Chairman Emeritus, and U Mya Than as a new Chairman of the bank, (Zaw Soe Khaing, 2018). The advisory board includes, one non-executive director, one independent director and two Vice Chairmen and one executive director. As mentioned in the figure 2 above, there are seventeen value centers and eleven functions under three Deputy Directors. They are Corporate/Financial Institution Loans, Deposit/Wealth, SME/Agent Banking, Unsecured Consumer, Treasury, Cash, Special Assets, Smart Branches (Emerging 600) and Domestic Remittance. Moreover, there are eleven functions which are Finance, Risk, Credit, Legal & Compliance, Audit, Technology, Marketing, Corporate Affairs, Sales, Human Resources and Shared Services, (Zaw Soe Khaing, 2018).

(ii) Profile and Background History of AYA Bank

AYA Bank was licensed by The Central Bank of Myanmar on 2nd July, 2010 with 55 Billion Kyats of Paid up Capital, and relicensed under the Financial Institution Law 2016 as a full-service universal bank. It has become the second largest bank in Myanmar with 234 Branches, 1.4 Million Customer, Kyats 4.7 trillion customer deposits and 150 kyats billion shareholder's Equity. Top hundred depositors represent about six percent (6%) of total customer deposits, underlining the general public's confidence in bank, (AYA, 2019).

Consequently, since 2014-15. In addition, AYA bank is the only bank in Myanmar to be IFRS compliant and the only one audited under international Standard of Auditing (ISA) by a big-four international firm. The bank has also attracted and retained talented staff with domestic and international exposure and has invested significantly in learning and development as a way to ensure long-term sustainable growth for the communities it serves. (AYA, 2019).

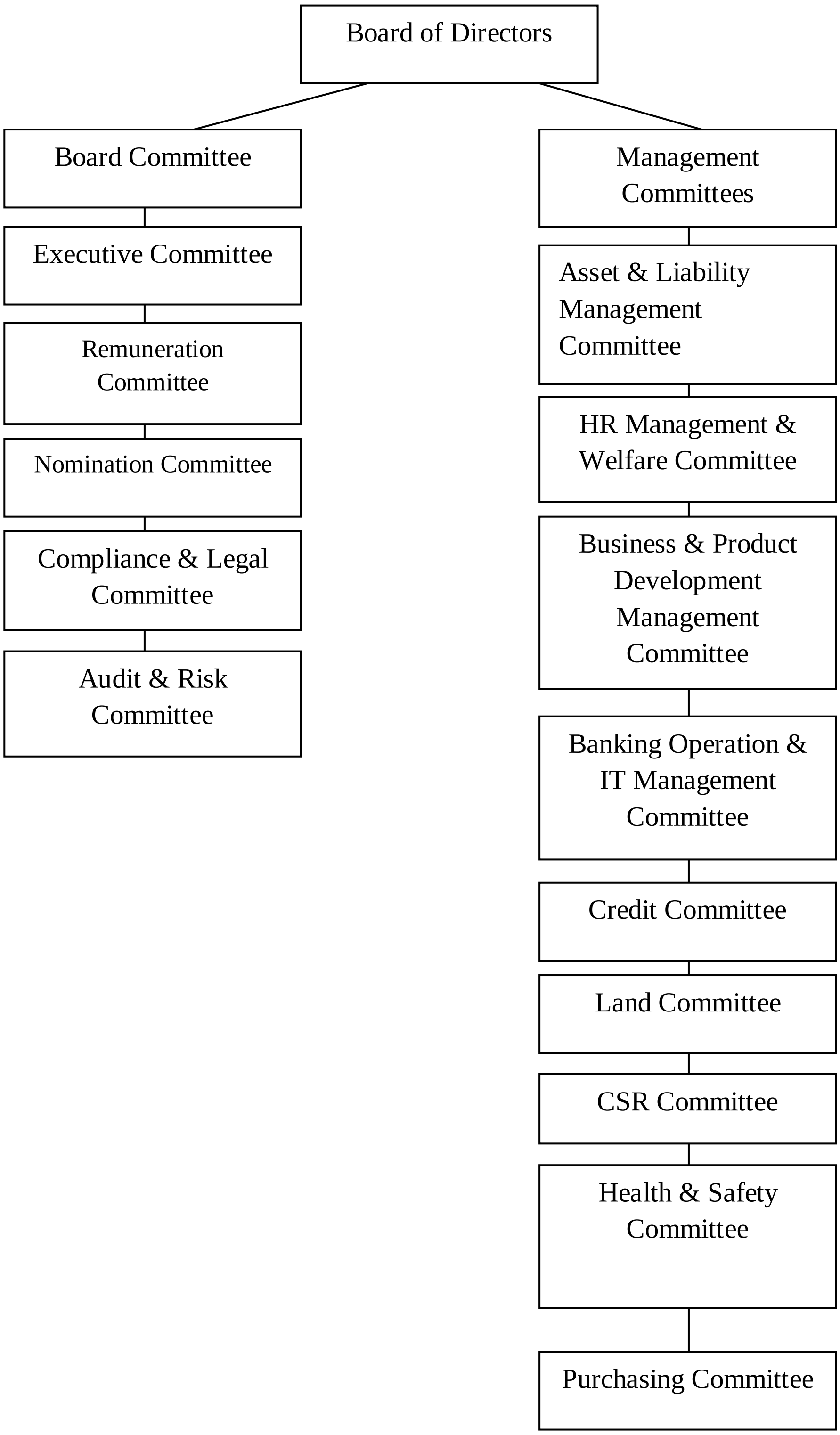
For the years ahead, the bank will continue to extend its branch network throughout Myanmar while concurrently investing in state-of-the-art Core Banking, Digital Banking and Fintech Platforms. AYA Bank aims to provide uniform Omni-channel interface offering innovative products and services across all customer segments. AYA bank will also continue to focus on deepening relationships with customers, providing best-in-class customer service, and leveraging technology as the enabler to rapidly expand the customer base. The bank also aims to further strengthen its governance, risk and compliance structure as a measure to ensure balance and sustain growth. (AYA, 2019)

AYA Bank received service awards throughout the years from 2013 to 2019, including Best Private Bank Myanmar 2013 by World Finance, Global Banking & Finance Review Awards 2014, Most Sustainable Bank, Best Private Bank, Best Banking Group Awards in 2015 and 2016, Best Regional Banking Awards 2017, Asia Money 2019 Best Bank for SMEs & Asia Money 2019 Best Bank for CST and EDGE Certificate for Gender Equality in 2019. (AYA, 2019).

AYA Bank mission is to be recognized as the leading bank in Myanmar through pursuit of excellent and long-term sustainable growth for the bank and its stakeholders. The Corporate Values-Ethics of AYA Bank are (a) we pursues our objectives with excellence, (b) we progress as a team, (c) we think and act in all honesty (d) we maintain integrity in all our dealings € we care for our customers, our colleagues and the people we interact with and in all our actions (f) we always act with sincerity. Additionally, AYA bank comes with their own Brand promises – “Your Trusted Partner; and is the bank of choice for anyone who is looking for fast, reliable, honest banking relationships at reasonable cost, (AYA, 2019).

AYA bank is taking the necessary steps to have a strong corporate governance, by having Board Committees; Executive committees, Remuneration Committee, Nomination Committee, Compliance & Legal Committee and Audit & Risks Committee. As well as Management Committees; which includes Assets and Liability Management Committee, HR Management & welfare Committee, Business & Product Development Management Committee, Bank Operation & IT Management Committee, Credit Committee, Land Committee, CSR Committee, Health & Safety Committee and Purchasing Committee, (AYA, 2019).

Figure 3.3: Governance Structure of AYA Bank



Source: AYA, 2019.

(c) Board of Director

AYA Bank set the Board of Director with the purpose of setting up the corporate direction, culture and providing effective governance over the bank's affairs for the benefit of all its shareholders, and to balance the interest of its diverse stakeholders, including its customers, employees, suppliers and local communities. The Composition of Board of Directors is U Zaw Zaw (Chairman), Daw Htay Htay Khine (Co-founder and Vice-Chairman), U Khin Maung (Vice-Chairman), Managing Director, U Than Zaw (Executive Director), Daw Khin Ma Ma (Executive Director), Prof Dr. Aung Tun Thet (Independent Non-Executive Director), U Min Sein (independent Non-Executive Director), Dr. Tin Latt (Independent Non-Executive Director). (AYA, 2019).

(d) Financial Products and Services of AYA Bank.

AYA Bank's Principal Activities are as follow;

- Borrowing or raising of money
- Lending or advancing money either secured or unsecured.
- Receiving securities or Valuables of Safe custody
- Collecting and transmitting money and securities
- Providing international banking services.

The organization structure of AYA Bank consists of corporate banking department, treasury department, finance department, human resource department, credit department, international department, digital banking department, marketing department, core banking department, banking operation department, administration department, information and technology department and risk management department. (AYA, 2019).

The main products of AYA Banks are as follows;

- Deposit, loan and advances, remittances, cash management, card payment, e-banking services, trade services, AYA Royal banking, foreign Exchange service and correspondents bank, AYA SMS alert, safe deposit boxes.
- Other Services includes, Foreign Exchange Services with various modes of currency exchange, Exchange counter (Cash transaction), Account Transfer from one FCA to another FCA, Account Transfer from or to account with other banks AYA bank has 29 correspondent banks including both local and foreign banks, (AYA, 2019).

(iii) Profile and Background History of CB Bank

CB Bank is one of the earliest and largest private sector banks in Myanmar, employing over 9000 employees, and 230 branches. Over 27 years, CB Bank has grown from 33 employees to 9000 employees. CB Bank has provided tailored made to their client's personal and business requirements such as, corporate loans, corporate finance & advisory, syndicated loans, security agency service, project financing, international trade, POS services, API and network integration, cash management, treasury, internet banking, mobile banking and payroll services.

Mission of CB Bank is (a) to our individual customers, we are a trusted place to keep their investments and we help them fulfill their dreams through our financial solution, (b) to our business customers, we offer the best financial solutions for their business operations and expansions, (c) to our employees, we are a place where they can learn and grow, (d) to our shareholders, we are a trusted venue for their investments and we deliver sustainable return.

In their vision, the bank is stated as (a) is built on solid foundation of risk management and corporate governance (b) employees are proud working for, (c) leads in technology and innovation and (d) listens to our customers to build long-term relationships and provide enhanced customer experience.

(a) Organization Structure of CB Bank

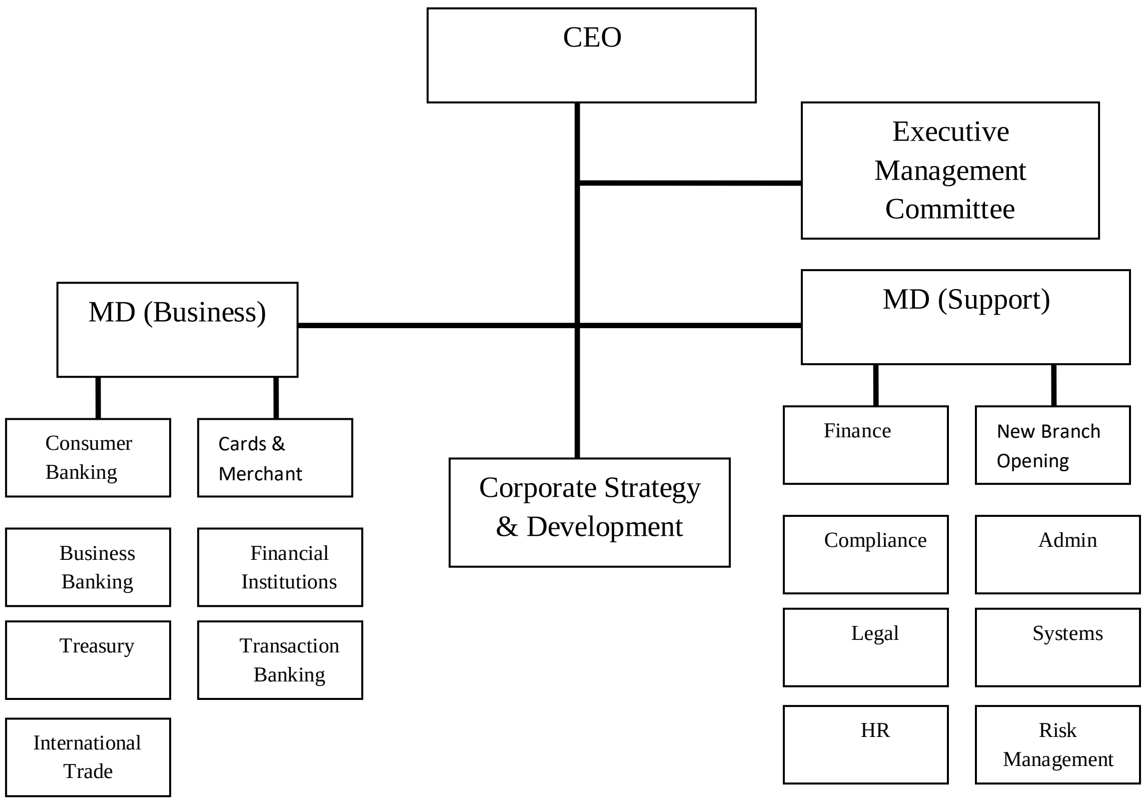
As per the requirement of corporate governance, CB Bank has Board of Directors meeting, Human Resources & Remuneration Committee, Risk Management Committee, Asset & Liability Management Committee, Banking and Technology Development Committee, Construction Committee, Audit Committee and Executive Management Committee. (CB, 2019)

CB Bank's Board of Directors is composed of executive directors, non-executive directors and independent directors. The duties and responsibilities of BOD is to provide a vision, policies and direction in conducting and monitoring the Bank's business to be in line with the law, the bank's objectives and regulations, and the resolutions of the shareholders' meetings. (CB, 2019)

Assets & Liability Management Committee is another important supervisory group for liquidity risk management. The committee oversees the policies to manage the bank's balance sheet structure so that the bank earns sustainable and adequate returns at the reasonable risks. (CB, 2019)

The Risk Management Committee is formed as to manage bank's portfolio in order to maintain the success and growth of banking business. The committee oversees the risk management strategy, decides the risk appetites and assess the effectiveness of risk management framework. The committee not only overseas the credit risk but also market risk, operational risk, as well as strategy risk. The committee regularly schedules board meetings to discuss sizable credit applications and set out guidelines to mitigate potential risks. Additionally, the committee closely monitors market developments, such as macro-economic, credit and industry risk factors in order to position the bank against any adverse circumstance and effectiveness of operation risk management. (CB, 2019)

Figure 3.4: Organization Structure of CB Bank



Source: CB, 2019

(b) Financial Products and Services of CB Bank.

There are four main core product lines provided by CB Bank; Consumer banking, Prestige Banking, SME Banking and Corporate Banking.

Consumer Banking: to fulfil the expectation and complement their customer's lifestyles, and to provide the banking experience to exceed the expectation of their loyal customers through digital banking at their fingertips. (CB, 2019)

Prestige Banking: mainly for high net worth customers, CB Bank facilitates their requirements with utmost flexibilities through customized services and products with 24/7 hotlines services. (CB, 2019)

SME Banking: Since more than 90 percent of businesses in Myanmar are in the form of SMEs, CB bank's supports to SME is necessary for the development of domestic economy. CB Bank is the first bank in Myanmar to be selected by KfW Bank to develop models for SME loans. (CB, 2019)

Corporate Banking: CB Bank's first priority is to establish strong relationship and help through financial solutions for our corporate banking customers. As the requirements of local companies are also becoming more and more sophisticated, CB Bank has adapted digital tools such as Core Banking System, Mobile Banking, as well as actively recruiting more talents to boost their technology and digital capabilities. In addition, CB Bank is providing other services such as cash management solutions, international trade services and treasury services. (CB, 2019).

The above mentioned three main banks are operating treasury activities and providing various treasury related product and services compliance with their authorized dealer license issued by Central Bank of Myanmar. According to the objectives of this study, the practices of treasury risk management will be identified follow by the challenges of treasury risk management in those three banks will be analyzed in next chapter. (CB, 2019)

3.3 Treasury Risk Management Practices of Selected Commercial Banks.

The study explores the risk management practices in treasury department of selected commercial banks. As the selected commercial banks are top three largest bank by market share, the risk management practices are well organized and aligned with the international practices. The basis risk management practices in treasury department of selected commercial banks includes; proper segregation of the duties and responsibilities to each office under treasury department, organizing regular ALCO, asset and liabilities management, utilization of treasury module system in place for proper transaction records and data backup system, well specified SoPs, policies and procedures. Additionally, being compliance with the regulatory requirement, such as NOP, Trading position, Deposit auction ratio and single lending/borrowing limits with the counterparties.

(i) Proper Segregation of Task and Responsibilities.

As mentioned in the chapter II, all the previous researches stated that the proper segregation of task and responsibilities is essential in treasury risk management. It is important, not to give a full authority to one person for the operations for each office (i.e., front, middle and back), to ensure that the person's responsibility should not be overloaded or fully have the authority to execute the transactions as he/she wishes. Thus, the bank should have a reasonable number of employees for each office depend on its capacity and growth.

(ii) Organizing a Regular Asset and Liabilities Committee

As one of the treasury functions is to manage liquidity and maturity mismatches, having a regular committee for asset and liabilities management plays essential role for treasury risk management. In this committee, treasury official will have opportunities to know the breach limits, updates on the regulatory requirement, the open positions, the new products of treasury etc., in order to be aligned with the market and compliance with the regulatory requirement.

(iii) Usage of Treasury Module System

The treasury module system provides the facilities for the data backup, and transaction settlements, and functions for preventions of frauds effects in payments. In addition, treasury module systems (TMS) have variety of functions for integrating cash management, investment and debt management, and FX capabilities where possible and can combine solutions with trading and banking channels, validation platforms and customized reporting tools. Despite the fact that the treasury module systems (TMS) is in placed in treasury department, some areas in treasury departments are still using the spreadsheets, which could lead the possibility of operational fraud risks.

(iv) SOP, Policies and Procedures

The importance of having policies and procedures for treasury operations are taken into their considerations, yet, it is still required to ensure that those procedures are actively practiced in the treasury department. Hence, this is where the monitoring and supervising started to take place. Furthermore, the policies and procedures should specify the purpose, scope, policy statements with the specific steps for risk management process for the operations.

(v) Stress Test

The stress tests for treasury risk management are in lined for; treasury portfolio management, net open position exposure management, delegation of authority matrix, compliance with regulatory requirements, as well as the risk analytics, monitoring process.

CHAPTER IV
ANALYSIS ON CHALLENGES OF TREAUSRY RISK MANAGEMENT IN SELECTED COMMERCIAL BANKS

This chapter presents the analysis of the study based on the challenges of treasury risk management in selected commercial banks in Myanmar. The study primary data was collected via the use of questionnaire, the data was analyzed using SPSS and presented inform of table charts, percentages and inferential. The respondents of the survey are the all levels of treasury staffs from the selected commercial banks in Myanmar.

4.1 Research Design

The main objectives of this study are to identify Treasury Risk Management Practices in selected commercial banks and to analyze the challenges of Treasury Risk Management. This study used the descriptive research method with both primary and secondary data. For primary data, the survey was carried out via emails with the treasury staff in selected commercial banks (i.e., KBZ, AYA and CB at their Head Office in Yangon) at their head office in Yangon. Secondary data were collected from different published resources of report, research papers, articles and news from the internet, information from the Central Bank of Myanmar and respected Banks.

This survey was conducted in four weeks from 20th November, 2019 to 11th December 2019. The questionnaire was presented with two-part, Part A and B. In part A, the total of 10 questions which focus on the demographic information of the respondents such as the job title, level of educations and the experiences of the respondents in treasury. In Part B, there were five sub-session divided as (a) People skills and knowledge of treasury (b) Process of Treasury Management (c) Risk Management Practices (d) Challenges in Treasury Risk Management and lastly (e) Risk factors in Treasury. Part B includes total of 44 questionnaire which were rated on a five-point Likert scale, ranging from “1” indicated “strongly disagree” to “5” indicated as “strongly agree”.

4.2 Demographic Profile

This analysis was on Challenges in Treasury Risk Management in selected three commercial banks in Myanmar (i.e., KBZ Bank, AYA Bank and CB Bank) by analyzing structured questionnaires in which demographic profiles, people skills in treasury, treasury management process, risk management practices in treasury, risk factors in treasury and challenges in treasury risk management.

The study sample population was 90, out of this number the researcher obtained 65 respondents from the given financial institutions. This represented 72.2 percent of the total sample size. A response rate of 50 percent is adequate for analysis, 60 percent response rate is a good representation while 70 percent and above response rate gives an excellent report, (Mugenda and Mugenda (2003).

Demographic information of the respondents consists of his or her job title, education level, education background related to his/her job (in percentage), the number of people under his/her supervision, the total number of staff in treasury department, total years at current role, total years of treasury experience, total years in banking industry, the departments he/she worked at banking and the section of his/her position in treasury.

(i) Gender of the Respondents

Gender status of the respondents is shown is Table (4.1). There were 35 female respondents and 30 male respondents. From the analysis of the below table, 54% of the total respondents were females while 46% were males.

Table (4.1) Gender of Respondents

Gender	Number	Percent
Male	30	33.3
Female	35	38.9
Total	65	72.2

Source: survey data, 2019

The table (4.1) shows that there is more female involvement than males in treasury business in selected commercial banks in Myanmar.

(ii) Occupational Level of the Respondents

The table (4.2) below shows that majority of the respondents from the banks are middle management level (28.9%) and operational staff level (26.7%) while the 16.7% of the respondents are senior management level.

Table (4.2) Occupational Level of Respondents

Occupational Level	Frequency	Percent
Senior Management Level	15	16.7
Middle Management Level	26	28.9
Operational Staff Level	24	26.7
Total	65	72.2

Source: survey data, 2019.

This table (4.2) shows that this survey has spread the reasonable percentage to all level of employees in treasury. Additionally, this gave a good representation of the view of the respondents to help in analyzing the risk factors and the challenges of treasury management of those selected commercial banks in Myanmar as it involved decision makers in the banks.

(iii) Education Level of Respondents

The above table shows that the majority of the respondents from the banks are degree holders (Bachelors) with 30% having bachelor qualification, 10% had master qualifications, 10% had diploma while 22.2% had certificate qualification

Table (4.3) Education Level of Respondents

Education Level	Number	Percent
Certificate	20	22.2
Diploma or Attending University	9	10.0
Bachelor (Undergraduate)	27	30.0
Master/PhD Postgraduate Qualification	9	10.0
Total	65	72.2

Source: survey data, 2019

The table (4.3) shows that the respondents are well versed with facts relating to treasury risk management of commercial banks in Myanmar.

(iv) Experiences in Treasury

The table (4.4) below shows that majority of the respondents have been in treasury business for one year and while only 6.7% of the respondents are in the business for more than four years.

Table (4.4) Experiences in Treasury

Experiences in Treasury	Number	Percent
less than 6 months	4	4.4
6 months to 1 year	19	21.1
up to 2 years	18	20.0
up to 3 years	10	11.1
up to 4 years	8	8.9
4 years and above	6	6.7
Total	65	72.2

Source: survey data, 2019

This table (4.4) above indicates, that there are limited or few people in the treasury business who comes with strong treasury background and experiences.

(v) Experiences in Banking Industry

The table (4.5) below is to identity the experiences of the respondents in banking industry.

Table (4.5) Experiences in Banking Industry

Experiences in Banking Industry	Number	Percent
less than 6 months	14	15.6
6 months to 1 year	8	8.9
up to 2 years	15	16.7
up to 3 years	5	5.6
up to 4 years	17	18.9
4 years and above	6	6.7
Total	65	72.2

Source: survey data, 2019

The above table shows that the majority of the respondents have been in the banking sector for up to 4 years, the highest number of the respondents have worked in the banking sector up to 4 years representing 18.9% of the total sample size, this was followed by 2-3 years representing 16.7% while only 6.7% had above 4 years.

(vi) Segregation of Office in Treasury

The table (4.6) below shows that the majority of the respondents are from the middle office with the highest percentage at 31.1% followed by the 27.8% of respondents from the back office while 13.3% of the respondents represent the front office.

Table (4.6) Treasury Offices of the Respondents

Treasury Office of the Respondents	**Number**	**Percent**
Front office	12	13.3
Middle Office	28	31.1
Back Office	25	27.8
Total	65	72.2

Source: survey data, 2019

This indicates that the commercial banks in Myanmar have the proper structure of treasury offices for FX dealing (Front office), Monitoring and supervision (Middle office) and Transaction settlement (Back office).

4.3 Analysis on Challenges of Treasury Risk Management

(i) **People Skills and Knowledge in Treasury**

Referring to the table (4.7) below, the respondents were asked to indicate their level of knowledge, skills and understanding of the statement relating to treasury management environment, technique, supports, and resources they have in treasury department in commercial banks in Myanmar.

Table (4.7) Descriptive Statistics of People Skills and Knowledge in Treasury

Descriptive Statistics		
Statements	Mean	Std. Deviation
Understand the picture of hedging well in treasury	3.22	.838
Have strategic skills in dealing or decision making	3.89	.472
Training by your organization for treasury	3.92	1.080
Good Communication and relationship management in interbank relationship	3.95	.412
Familiar with derivative and hedging tools	4.02	.515
Understand treasury module system and accounting entries well	4.06	.242
Familiar with necessary systems and technologies	4.74	.443
Know the application of technical and fundamental analysis for pricing	4.74	.443
Have a strong treasury background mentors and colleagues to support you	4.74	.443
Overall Mean	3.44	.424

Source: survey data, 2019

From the finding, most of them agreed that they have mentors and supervisors with strong treasury background to support in their daily tasks in treasury department with a mean response of 4.47. The same mean 4.47 represents on their knowledge and usage of technical and fundamental analysis for pricing and their familiarity to necessary systems in treasury.

The respondents represent that their understanding of treasury module systems and the familiarity with the hedging tools in treasury with the mean response of 4.06 and 4.02 respectively.

Followed by the requirement of good communication skills in interbank relationship management, number of trainings provided by their organization, the strategic skills in dealing or decision making and their understanding of the whole picture of hedging in treasury had mean response of 3.95, 3.92, 3.89 and 3.22 respectively. The people in treasury has a thorough knowledge and skills in treasury with the mean response of 3.44.

(ii) Process of Treasury Management

The table (4.8) below shows that most of the treasury department in selected commercial banks in Myanmar are actively participate in the FX auction at CBM (mean 4.49), most of the banks are profit oriented (mean 4.43), most banks provides several types of treasury products including FX spot, Swap, repo (mean 4.06) and the treasury module systems are in place in all those three commercial banks in Myanmar (mean 4.06).

Moreover, the full usage of Bloomberg, Reuters or Refinitiv are rarely seen in all the treasury departments in selected commercial banks in Myanmar with the mean response of 2.74. This indicates that they may have one system or another, for the regulatory reporting and market outlook, nevertheless, not all the system will not be used at all the selected bank if it is not necessary as some of those are usually costly for the business.

Table (4.8) Descriptive Statistics of Treasury Management Process

Statements	**Mean**	**Std. Deviation**
Actively and frequently participate at FX Auction	4.49	.504
More profit Oriented than cost oriented	4.43	.749
Various types of treasury products (FX Spot, Forward, Repo, interbank)	4.06	.242
Treasury modules system in place	4.06	.242
Trade more of Proprietary Trading than as per customer requirement	3.78	.820
Spend more time on operational activities compare to strategic planning	3.40	1.072
Treasury Offices include front, middle and back.	3.40	1.072
report regular NOP to CBM on a daily basis	3.02	.927
Main source of funds are customer deposits	2.74	.889
Have Bloomberg and Thomsom Reuters/refinitive for market outlook	2.74	.889
Overall Mean	4.135	.2446

Source: survey data, 2019

Additionally, most of the respondents agreed that their treasury department are mostly traded based on the customer requirement instead of proprietary trading (mean 3.78). The respondents represent the mean of 3.40 by agreeing that their treasury team spend most of the time in operational activities compare to the strategic planning and the treasury department includes full structure (Front, Middle and Back office). The process of treasury management in selected commercial banks in Myanmar is well organized and standardized with the mean of 4.14. The process of treasury management in selected commercial banks in Myanmar is well organized and standardized with the mean of 4.14.

(iii) Risk Management Practices in Treasury

The treasury risk management of selected commercial banks are identified with the statements shown in the table (4.9) below.

Table (4.9) Descriptive Statistics of Risk Management Practices in Treasury

Statements	Mean	Std. Deviation
Have strong use of stress testing practices	4.38	.490
NOP compliance with the limit set by CBM	4.38	.490
Effective in risk data strategy and management and data governance	4.26	.668
Have backup of systems and data files on the real time basis	4.26	.668
have specific policy and SOPs for Treasury	4.06	.242
Every deal is recorded and saved by dealing room staff and monitored	3.52	.954
Risk management program is formulated by BOD and senior management	3.40	1.072
Have business intelligence units for local market outlook	3.32	.937
Prepares risk reports to senior officer and management on a monthly basis	3.12	1 .166
Overall Mean	3.46	.234

Source: survey data, 2019

The risk management practices in treasury had the overall mean response of 3.45 which represents the good level of risk management practices have been utilizing in the selected commercial banks in Myanmar. By referring the table (4.11), the details practices of risk management can be seen.

(iv) Challenges in Treasury Risk Management

The statements shown in table (4.10) below were asked to the respondents to identify the level challenges in treasury risk management.

Table (4.10) Descriptive Statistics of Challenges in Treasury Risk Management

Statements	Mean	Std. Deviation
Regulatory reform (tighter standards) can raise the cost of doing business and challenging	4.26	.668
Liquidity management is challenging	4.26	.713
Getting qualified treasury professional in local market is challenging	4.26	.668
FX Volatility is challenging.	4.26	.668
Market transparency and pricing is challenging in local market	3.54	1.076
Fraud management is challenging	3.42	.967
New entry of foreign bank branches is a threat	3.26	.957
The influence of Black market is challenging for pricing volatility.	2.80	.971
Overall Mean	4.09	.478

Source: survey data, 2019

The above table (4.10) shows that the respondents agreed that those challenges stated in table are challenging for the treasury department of selected commercial banks in Myanmar with the mean response of 4.09. The most challenging factors for the treasury department are the regulatory reform (tighter standards) can raise the cost of doing business, the liquidity management, the availability of qualified treasury professional in local market, FX volatility and the transparency for the pricing in local market with mean response over 4.26. Alternatively, some respondents view the influence of black market in local FX market is less challenging compare to the other challenges with mean response of 2.80.

(v) Risk Factors in Treasury

The statements from the table (4.11) below were designed to analyse which risk factors are the highest in treasury risk management.

Table (4.11) Descriptive Statistics for the Risk Factors in Treasury Management

Statements	Mean	Std. Deviation
Issue related to deals validation, incomplete or late receipt of deal confirmation and verification for accuracy and genuineness should consider high risk.	4.26	.668
Issue related to deal execution, accounting entries and exposure limit should consider high risk	4.262	.7132
The risk of maturity mismatch is high risk in treasury	3.68	.50335
non-adherence to dealing room coc is considered high risk	3.68	.503
Missing signal for breach out of limits of brokers and counterparties should considered as high risk	3.42	.967
Delayed and improper updating of treasury policies instructions and procedure in line with CBM regulatory requirement is considered high risk	3.26	.957
Issue related to approval/sanction from the appropriate authorities for all trading activities should consider high risk.	2.80	.971
Overall mean	3.69	.337

Source: survey data, 2019

The table (4.11) indicates that most of the respondents (treasury professional) agreed that the risks listed in the table 4.13 should consider high risks and need to take into consideration in the treasury risk management, policies and procedures.

(vi) Pearson's Correlation Analysis

The Pearson's coefficient (or r^2), also known as the Pearson Product-Moment Correlation, which is often used in SPSS software for data display and curve fitting (G Hall, 2015). Pearson's ratio is defined s the covariance of two variables representing a set of numerical data, normalized to the square root of their variance.

A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other, while a correlation coefficient of -1 represents that for every positive increase in one variable, there is a negative decrease of a fixed proportion in the other, (Statistic, 2019).

Table (4.12) Correlation Matrix of Construct Variable

	PS	**PTM**	**RMP**	**CTRM**	**RFT**	**OL**
Occupational Level (OL)	-.475**	.023	.068	.153	.143	1
People skills and knowledge of treasury (PS)	1	.004	-.014	-.088	.064	-.475**
Process of Treasury Management (PTM)		1	.380**	-.070	.330**	.023
Risk Management Practices (RMP)			1	.332**	.314*	.068
Challenges in Treasury Risk Management (CTRM)				1	.552**	.153
Risk Factors in Treasury (RFT)					1	.143

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Listwise N=65

Source: survey data, 2019

The table 4.12 includes the correlation between the occupational level of respondents and the people stills/knowledge and process of treasury management, risk management practise, challenges in treasury risk management and risk factors in treasury. As stated in table 4.12 above that the occupational level is significantly negative correlated to people skills and knowledge of treasury department, (r = -

0.475, $p < 0.01$), understanding of treasury process has positive correlation with the occupational level ($r = 0.23$, $p < 0.01$), understanding of risk management in treasury has positive correlation with occupational level ($r = 0.68$, $p <0.01$), the understanding of challenges in treasury risk management has positive correlation with occupational level ($r = .153$, $p < 0.01$) and additionally, the understanding of the importance of the risk factors in treasury is positively correlated with occupational level ($r = .143$, $p < 0.01$). Hence, the above Person's Correlation stated that the people skills and knowledge have strong negative correlation with the occupation level, which means that the higher level of occupation does not necessary define the senior management possess the required skills and knowledges of treasury. This is possible because of the fact that the longer experiences in the bank could have a higher level of occupation without the training and education background for the related department.

CHAPTER V
CONCLUSION

This chapter reviews on the discussion of the data findings and recommendations on the challenges of treasury risk management in selected commercial banks in Myanmar.

5.1 Findings

This study showed that there are specific challenges that local commercial banks face in treasury risk management today. Based on the fact that Myanmar banking industry is under developed, the challenges such as finding the right people for treasury in local market, regulatory requirements on the supervision of the forex market, the proper and relevant reporting to CBM from treasury department, the challenges in maintaining all records of the daily transaction, and lastly the challenges in availability of the market news and transparency. The core challenges are credit risk and market risk management, people risk and regulatory related risk, while the other challenges includes; liquidity management, foreign exchange currency management, price volatility and counterparty default risk.

Among the numbers of challenges and risks in managing treasury department at a commercial bank, the credit risk, and market risk are the core challenges that local banks are facing base on the analysis on the survey. One of the most challenging factors for the pricing is lack of transparency in the market, and the informal brokers from the black market are taking the role of market leader among which can have a huge impact to the price volatility of the local currency.

The fraud cases, the counterparty default risk, and the liquidity risk could be reduced with the proper credit risk management practices which includes, compliance with local regulatory body's requirement, internal policy/procedure specified for treasury, SOPs for the operations, records for every transaction execution, and proper treasury management systems in place.

According to the survey analysis, most of the respondents are well educated yet the respondent with education background related to treasury is still low. Hence, hiring and retaining the qualified professional with strong treasury knowledge and working experience is still challenging for the financial institution in Myanmar.

Additionally, hiring the people without treasury knowledge and experience from local market have tendency to occur human error in the operations, which can lead to the huge impact on the profitability or reputation of the financial institution.

The requirement set by regulators for reporting were stated as one of the most challenging factors in treasury business. The net open position is reported to Central Bank of Myanmar on a daily basis by the authorized dealer banks, which is need to be compliance within (+/-) 20% of the Tier I Capital of the bank. Yet, the calculation ratio is challenging for the commercial banks as the regulatory take the total asset and total liabilities of the bank into account, in fact, there should be separate treasury book for that net open position.

Additionally, the closer supervision of the money changers counters which holds a huge amount of foreign currency which could make them the market leader in manipulating the local forex market and create the market instability.

5.2 Suggestion

Based on the objectives of the study, the following recommendations were drawn: This study recommends that bank should enforce proper of asset liability management, internal control and train the existing treasury staff for better and broader understanding of treasury in order to a greater extent as it improves on the financial performance of commercial banks. Additionally, this study recommends that the banks need to focus more on strategic planning in treasury than spending time on the operational activities. Strategic planning such as liquidity mismatch management, fraud management, and currency risk management as well as introducing more creative treasury products which can adapt with the local market and demand.

Despite the research study being successful, there were some challenges as a result of time constraint, reluctance among the respondents, and financial constraint that limited the scope of the study to only three commercial banks in Myanmar.

5.3 Needs for Further Study

The study suggest that the further research should be done on challenges in treasury risk management in more details, by adding the interbank market transactions such as bond, MMK deposits auctions, interbank placement, deposit transaction etc as this study was focusing more on the forex trading section under treasury department apart from the two objectives covered in this research.

REFERENCES

1. Akhilesh T. (2013). A Model Framework for Measuring and Managing Operational Risks in Treasury Operations in Financial Institutions, for the degree of Doctor of Philosophy, Birla Institute of Technology and Science Pilani (Rajasthan) India, 2013.
2. Arya K. and Akhilesh T. (2013), Treasury Operations in Indian Banks, Challenges in Operational Risk Management, 2013.
3. AYA Bank Website https://www.ayabank.com/en_us/corporate-governance/governance-structure/
4. Burma Country Commercial Guide, Export.gov, 2019. https://www.export.gov/article?id=Burma-banking-systems
5. Central Bank of Myanmar website, 2015 https://www.cbm.gov.mm/content/central-bank-myanmar
6. Darrell .D, (2010), The Failure Mechanics of Dealer Banks: Journal of Economic Perspectives – Volume 24, Number 1, Winter 2010, Pages 51-72
7. G Hall, 2015, Pearson's correlation coefficient, February 17, 2015. http://www.hep.ph.ic.ac.uk/~hallg/UG_2015/pearsons.pdf
8. Hakansson E. and Aberg V. (2012). Measuring Interest Rate Risk in the Treasury Operations of an International Industrial Company Group; A Case Study of Toyota Industries Finance International, Mater Thesis in Business Administration, International Business and Economics Programme. Progress, Milken Institute, August 2017. http://www.divaportal.org/smash/get/diva2:536514/fulltext01.pdf#page=21&zoom=100,0,293

9. Hnin Wuth Yi, (2018), A Study on Customer Satisfaction Level of AYA Royal Banking Service, MBF-4th Batch, Yangon University of Economic, 2018.
10. John S. and Lena S. (2017), The Banking Sector in Myanmar: An assessment of Recent
11. Treasury and Cash Management Essential, the interface between business and its financial providers, CGMA, Chartered Global Management Accountant, January 2017.
12. Managing Foreign Currency Risk: Best Practices from the Treasury Professional and Technology Solutions Provider, Kyriba Corporation, 2014. https://www.slideshare.net/slideshow/embed_code/31396853?rel0
13. Myanmar's Banking Sector in Transaction: Current Status and Challenges Ahead, GIZ, 2018.
14. Mugenda, O. M., & Mugenda, A. G. (2003). Research methods: Qualitative and Quantitative Approaches. Nairobi: Acts Press.
15. Petr P. and Ivan K. (2010), Centralization of Treasury Management, first edition 2010, published by Business Perspective, 2010.
16. Risk Management in Treasury, TFG Treasury Management Hub, Trade Finance Global, 2019 https://www.tradefinanceglobal.com/treasury-management/treasury-liquidity-risk-management/
17. Statistics How to; Correlation Coefficient: Simple Definition, Formula, Easy Steps, https://www.statisticshowto.datasciencecentral.com/probability-and-statistics/correlation-coefficient-formula/
18. Saunders, S. and Cornett, T. (2007): Financial Markets and Institutions; an Introduction to the Risk Management Approach. McGraw Hill Pub.2007

https://www.treasurers.org/system/files/treasury%20and%20Cash%20management%20essentials.pdf

19. Sinha, Anand, Deputy Governor, Reserve Bank of India speech addressed on ―Perspectives on Risk and Governance‖, at the Risk & Governance Summit organised by the Indian School of Business, Hyderabad and Deloitte at Mumbai on August 23, 2012, electronic copy available from http://rbi.org.in/scripts/bs_speechesview.aspx?Id=720
20. Treasury Concepts: Risk Management, DBS Website https://treasuryprism.dbs.com/treasury-concepts/risk-management

Dear Participant,

This questionnaire is designed to study the challenges and risks in treasury management of selected local banks in Myanmar. The information you provide will help us to understand what are the treasury management practices in local banks and to identify the challenges of treasury risk management. As an employee of the bank in the study, please assist by answering the questions honestly and completely.

Your response will be kept strictly confidential and sorely used for the academic purpose. Only the findings of the study will be published in the final report. As you do not need to mention your name the anonymity is assured.

Your cooperation towards completion of this study will highly be appreciated.

Sincerely,

Tint Tint Shoon Wai.

APPENDIX A

Questionnaire Survey for Challenges in Treasury Risk Management

Part A: GENERAL INFORMATION

1. My Occupational Level is

☐ Senior Management Level ☐ Middle Management Level

☐ Operational Staff

2. Educational Level:

☐ Certificates ☐ Diploma or Attending University

☐ (Bachelors) Undergraduate Degree ☐ (Master/ PhD) Postgraduate Qualification

3. Education back ground related to your current job:

☐ below 20% ☐ 20% to 49% ☐ 50% to 79%

☐ 80% to 100%

4. How many people reports to you directly?

☐ 3 to 5 ☐ 6 to 10 ☐ 11 to 15

☐ 16 and above

5. How many are in treasury department?

☐ 1 to 3 ☐ 4 to 6 ☐ 7 to 11

☐ 12 to 16 ☐ 17 and above.

6. How long have you been in your current role?

________ Year (s)_________ Month(s)

7. How many years of treasury experience?

_________Year (s)_________Month(s)

8. Working experiences in Banks

_________Year (s)_________Month(s)

9. Working experiences in department (you may choose more than one)

☐ Treasury Department ☐ Credit Department ☐ Compliance

☐ Trade Department ☐ Risk Department

10. Please choose one, you belong to;

□ Front Office □ Middle Office □ Back Office

Part B: Challenges, Risk factors and Practices in Treasury Management

Index
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

No	**Item**	**Index**
People Skills and knowledge of Treasury		
1	You had enough training in treasury or risk management provided by your organization.	1 2 3 4 5
2	You are familiar with derivatives and hedging tools.	1 2 3 4 5
3	You understand well the picture of hedging in Treasury.	1 2 3 4 5
4	You have strategic skills in dealing or decision making for treasury transactions.	1 2 3 4 5
5	You have good communications and relationship management skills to build interbank relationship.	1 2 3 4 5
6	You understand well about treasury module systems and accounting entries for treasury transaction.	1 2 3 4 5
7	You are familiar with the necessary systems and technologies for operations.	1 2 3 4 5
8	You know how to apply the technical analysis and fundamental analysis for pricing and necessary analysis.	1 2 3 4 5
9	Your mentors and colleagues have strong treasury background to guide and support at your work.	1 2 3 4 5
Process of Treasury Management		
1	Your bank's treasury operations procedure includes all Front, Middle and Back office.	1 2 3 4 5
2	Your Bank has a Treasury Module System in place.	1 2 3 4 5
3	Your bank treasury has the platform such as Bloomberg or Thomson Reuter/Refinitiv for market information.	1 2 3 4 5
4	Your bank actively and frequently participates in FX auction at	1 2 3 4 5

	CBM.	
5	Your bank treasury is more on profited oriented than cost oriented.	1 2 3 4 5
6	Your treasury teams trade more on Proprietary Trading compare to the customer requirement.	1 2 3 4 5
7	The main source of capital for treasury deals are customer deposits.	1 2 3 4 5
8	Treasury team spends most of the time on operational activities compare to strategic planning.	1 2 3 4 5
9	Your bank report Net Open Position to CBM on daily basis.	1 2 3 4 5
10	Your Bank's Treasury has various types of treasury products (e.g., FX Spot, Forward Agreement, Repo, Interbank-placement/deposit and FX Swap).	1 2 3 4 5
Risk Management Practices		
1	Your Bank has a specific policy and SOPs for the Treasury Department.	1 2 3 4 5
2	The bank's risk management program policy is being formulated by the BOD and Senior Management.	1 2 3 4 5
3	Your bank prepares risk reports for senior officers and management on a monthly basis.	1 2 3 4 5
4	Every Transaction deal is recorded and saved by dealing room staff and monitored	1 2 3 4 5
5	Your bank's Treasury operations compliance accordingly to the net open position limit set by Central Bank of Myanmar.	1 2 3 4 5
6	Treasury team have a backup of systems and data files on the real time basis.	1 2 3 4 5
7.	Your Bank's Treasury department has a strong use of stress testing practices such as VaR, liquidity stress testing, data quality and capital stress testing.	1 2 3 4 5

8	To what extend do you consider your institution to be extremely or very effective in any aspect of risk data strategy and management such as data governance.	1 2 3 4 5
9	Your Bank's Treasury has the business intelligence units to keep up with the market updates and analysis.	1 2 3 4 5
Challenges in Treasury Risk Management		
1	To what extent do you agree that FX volatility is challenging in Treasury.	1 2 3 4 5
2	To what extent do you agree transparency of market and pricing is challenging in local market.	1 2 3 4 5
3	To what extent do you agree that it is challenging to get qualified treasury professional in local market.	1 2 3 4 5
4	To what extent do you agree new entry of foreign bank branches is a threat for treasury in local banks.	1 2 3 4 5
5	The fraud management is challenging in treasury.	1 2 3 4 5
6	To what extend do you agree the liquidity management for treasury is challenging.	1 2 3 4 5
7	Regulatory reform (tighter standards or regulations) will raise the cost of doing treasury transactions and challenging for the business.	1 2 3 4 5
8	The influence of black market is challenging to manage the pricing volatility.	1 2 3 4 5
9	Counterparty Risk management is difficult to manage and challenging.	1 2 3 4 5

Risk Factors in Treasury		
1	Risk of non-adherence to dealing room code of conduct – installation of voice recorders, no use of mobile phones in dealing room etc. should consider as high risk.	1 2 3 4 5
2	Risk in delayed and improper updating of Treasury Policies, instructions and procedure in line with the relevant regulatory requirement/CBM directives should consider high risk.	1 2 3 4 5
3	Risk of missing signal for breach out of limit of brokers and counterparties, missing correctness and completeness of execution and settlement of treasury transactions should consider high risk	1 2 3 4 5
4	Issue related to deal execution, accounting entries and exposure limit should consider high risk	1 2 3 4 5
5	Issue related to deals validation, incomplete or late receipt of deal confirmation and verification for accuracy and genuineness should consider high risk.	1 2 3 4 5
6	Issue related to approval/sanction from the appropriate authorities for all trading activities should consider high risk.	1 2 3 4 5
7	To what extent do you the agree asset and liabilities mismatch is high risk in treasury management.	1 2 3 4 5

APPENDIX B

Myanmar Banking Sector

State owned Banks	Domestic Private Banks	Foreign Banks Branches
1. Myanma Agricultural Development Bank 2. Myanma Economic Bank 3. Myanma Foreign Trade Bank 4. Myanma Investment and Commercial Bank	1. Asia Yangon Bank Ltd 2. Asian Green Development Bank Ltd 3. Ayeyarwady Farmers Development Bank 4. Ayeyarwady Bank 5. Construction & Housing Development Bank Ltd 6. Co-operative Bank Ltd 7. First Private Bank Ltd 8. Global Treasure Bank Ltd 9. Inwwa Bank Ltd 10. Kanbawza Bank Ltd 11. Myanmar Apex Bank Ltd 12. Myanmar Citizens Bank Ltd 13. Myanmar Microfinance Bank Ltd 14. Myanmar Oriental Bank Ltd 15. Myawaddy Bank Ltd 16. Nay Pyi Taw Sibin Bank Ltd 17. Rural Development Bank Ltd 18. Shwe Rural and Urban Development Bank 19. Small and Medium Industrial Development Bank 20. Tun Commercial Bank Ltd 21. United Amara Bank Ltd 22. Yadanabon Bank Ltd 23. Yangon City Bank Ltd 24. YOMA Bank Ltd 25. Glory Farmer Development Bank 26. Mineral Development Bank 27. Myanmar Tourism Bank	1. ANZ 2. Bangkok Bank 3. BIDV 4. Bank of Tokyo Mitsubishi 5. E-sun Bank 6. ICBC 7. May Bank 8. Mizuho Bank 9. OCBC 10. Shinhan Bank 11. State Bank of India 12. SMBC 13. UOB

Source: CBM, 2019