Deep Science Publishing
https://doi.org/10.70593/978-81-989050-1-7_8

DeepScience
Open Access Books

Chapter 8: Enterprise Treasury Management Solutions and Strategic Capital Optimization

8.1. Introduction to Treasury Management

Treasury management serves as the nucleus of the financial industry and corporate finance. It encompasses all aspects of fund management, liquidity planning, investor support, and risk management concerning treasury assets. It is also responsible for designing and implementing an efficient fund management system across the entire enterprise, while promoting effective cooperation and support between internal departments and outside organizations. For large multinational corporations, the establishment and launch of a treasury management system is a long-term and complicated undertaking (Gerasimchuk, 2021; Rauf et al., 2024; Abiola-Adams et al., 2025). It involves all aspects of the corporation's operation, management and finance. It plays a critical role in the planning, deployment, and streamlining of an enterprise's resources. In addition, it is a key part of the corporation's internal basic balance, having a considerable effect on the integration and efficiency of the enterprise's working capital. The task of the treasury is to maintain liquidity at all times to fulfill the corporation's short-term commitments and obligations. This is an ambitious objective, as it requires the treasury to develop communication systems and relationships of confidence with banks and other financial institutions which will provide financing sources and services for the corporation. The ultimate action of the treasury is liquidity control. Its materializes via cash management, which involves application and availability of cash, timing, types of cash, demand planning and analysis, future cash flow predictions, and communication with the management, operating, and administrative divisions of the enterprise (Shi, 2021; Zakirova et al., 2021; Ren, 2022).

8.1.1. Background and Significance

Many finance professionals attach a much broader significance to treasury management due to the enhanced changes in the business environment. Treasury management contributes to value creation at three levels of decision-making: (a) Treasury management provides modeling support for investment decisions since net present value is the basic criterion for acceptance/rejection of investments. A weak treasury function adds its own costs to the total synergy cost, thereby requiring an upward adjustment. However, this emphasis on cash flow modeling and adjustment at the project level has come under scrutiny. (b) Treasury management affects risk management decisions. Organizations with treasury centers can hedge firm-wide exposure, whereas decentralized firms can hedge only country-specific or currency- or instrument-specific exposure, using limited instruments. This distinction gives rise to a risk-adjusted discount rate effect at the firm level. Other things being equal, centralized firms can use a lower cost of capital than decentralized firms, making them more prone to mergers. (c) Treasury management also plays a major role in managing the corporate cost of capital. Research has established a direct relationship between a firm's credit rating and its funding costs. By keeping a lid on the corporate cost of debt, treasury management can reduce the overall cost of capital, and therefore the discount rate.

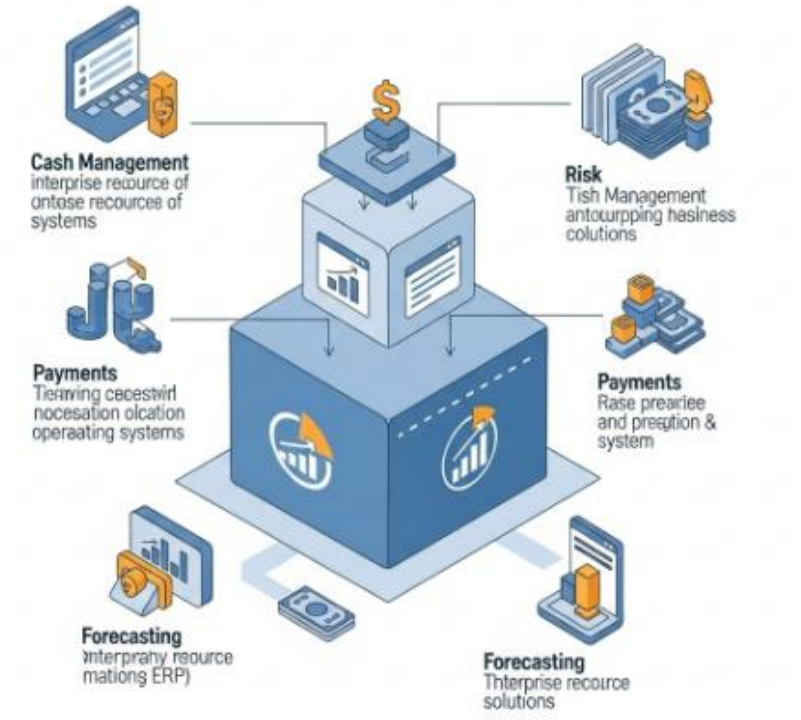

Fig 8.1: Enterprise Treasury Management Solutions

The interest of various stakeholders has expanded the stages at which value is created, as well the incentives to create it. Supply chain moves have extended physical production networks, creating interests in working capital, settlement risk, and foreign exchange risk. Mergers and acquisitions have enlarged the relative importance of intangible assets, especially the moving parts that are involved in the creation of liquidity and buffer zones.

8.2. Importance of Capital Optimization

In June 2003, the Federal Reserve raised its short-term interest rate for the 17th consecutive time and the increase in the cost of capital has made borrowers aware of how the rates and credit spread affect their obligations. Individual accounts of burgeoning expenses related to capital suggest that the interest rate and credit spread should also be of concern to any enterprise that invests in capital disenchantment. The emerging capital "burden" might be addressed through the tools of efficient investment and optimization of capital. With the current political upheaval, there is uncertainty as to whether the rule of law will prevail in corporate America. Will companies continue to prosper financially, or is the economy entering a severe recession? The truth is that we are already affected by recession exacerbated by the political uncertainty and the current situation of terrorism. It poses numerous critical questions regarding business and corporate leadership; one of these is related to the role of the Treasurer and the smart decision-making necessary to optimize revenues and save costs by using innovative techniques. When confronted with tough economic conditions, businesses tend to focus on the most important aspects of company success: keeping costs under control, being efficient, and optimizing returns. They also become risk aware as to how risk can adversely affect returns particularly on investments in capital and the cost of obtaining that capital that has grown so burdensome.

Economic patterns clearly indicate that, on average, capital markets correct at the same time corporate America is emerging from an economic downturn. Managers must map out and implement capital optimization strategies over a three- to five-year time horizon to ensure that the positive trends in capital efficiency and business growth rates are maximized. It is this importance of capital optimization particularly to enterprise Treasury practice that forms the underlying motivation for this research. Data suggests that enterprise investment flows amount to nearly 80% of gross domestic product, and enterprise return on capital has been relatively flat for nearly two decades.

8.2.1. Research design

Capital management is a broad topic, and the concepts discussed are grounded in an extensive and detailed body of literature. We limit our investigation only to those aspects

and quantitative techniques used in practice by corporate treasury management executives, and compare the theory and practice at senior corporate treasury management executives' companies. The question is addressed through evidence gathered via a semi-structured interview process and a survey. Corporate treasury management is defined as the management of financial assets and liabilities at corporate level, with the aim of optimizing risk and return through appropriate funding, investment, and risk management policies. Specifically, capital being excessive or insufficient may be the symptoms of inefficient use and the cause of performance inefficiency.

We argue that capital optimization allows for the simultaneous maximization of equity, and minimization of cost of capital and corporate risk. We then propose a corporate model being both board and market driven that defines the strategic objectives of capital optimization, and the rules, processes, and tools that allow for the day-to-day implementation at operating level of the capital allocation function. In a capital market consisting of banks and shareholders, we denote equity issuance and debt maturity as the policies that induce the market to signal deviation from the strategic objectives, viz. communicating the future risk of the company via its stock price volatility, which is then risk discounted by shareholders causing the cost of capital to reach its minimum. We test for the empirical relevance of the model and research questions via semi-structured interviews and a questionnaire survey sent to senior executives within different corporations in Europe. The interviews seek information on the investor-banker role, knowledge, and importance attached to the different strategic objectives of capital allocation.

8.3. Overview of Treasury Management Solutions

Despite traditional treasury activities being carried out with a highly centralized treasury unit, within the Enterprise, our discussion of Corporate Financial Management has emphasized the increase in treasury delegation of specific authority to operating units. This recognizes the high level of information asymmetry which exists between the treasury management unit and individual overseas units responsible for local flow management and the many services offered through multinational banking networks. However, it is likely that regardless of the level of treasury activity centralization, data acquisition and reporting still tend to occur at the local level. Although treasury activities may be centralized or decentralized, the information flows connecting the enterprise treasury function with operating units remain critical. Treasury Management Solutions automate and enable these information flow connections.

A Treasury Management System enables the treasury department to streamline its day-to-day operations, while also managing the company's liquidity position and risk

profiles. In a global economy, the TMS helps achieve cost savings by allowing a company to tap into centralized transaction, investment, and financing resources, and break rate barriers, across subsidiaries, regions, and business lines. These decision-enabling and decision-executing solutions allow organizations to practice effective Cash Management, Bank Account Management, Reconciliation Management, International Tax Management, and Foreign Exchange Management. Increasingly treasury departments are also implementing technology solutions related directly to professional asset and liability management activities including Liquidity/Position Management and Interest Rate Risk Management.

8.3.1. Types of Treasury Management Solutions

Large corporations manage their liquidity and funds using commercially available technology services known as treasury management solutions or cash management systems. Treasury management systems automate functional work in cash flow forecasting, payment processing, and banking connectivity. Treasury management capabilities are frequently offered as part of a full-fledged enterprise resource planning system. Alternatively, they may be produced as a standalone product and then integrated with another resource system. TMS/CMS services offered by corporate banks typically provide just a subsample of the service capabilities and functions that vendors of standalone TMS/CMS solutions may provide.

Fig 8.2: Types of Treasury Management Solutions

Corporations, particularly treasury-centric corporations, typically feel some performance pressure suggesting the need for a sophisticated treasury management solution. These organizations may require currency management capabilities such as pooled and zero balance accounts, intercompany loans, etc. Large global corporations may want the full array of foreign exchange dealing capabilities. Corporations with legal capital requirements may need syndication tools. Investment managers typically utilize TMS to assist in defining the right security investment strategy for different classes and tranches of funds.

8.3.2. Key Features and Benefits

Enterprise treasury management solutions (TMS) include a variety of modules. These include cash and liquidity management; cash positioning, cash forecasting, and cash concentration; collections and disbursements; bank account management; financial risk management; payment processing; investment and debt management; hedge accounting; and financial market transaction processing. These modules can be extended through integration with applications for business intelligence; enterprise accounting and resource planning; enterprise performance management; financial supply chain management; risk analysis; cash management; invoice-to-payment automation; expense management; and document management.

The most important modules of enterprise TMS are discussed in the following business value context. Centralization, visibility, and control. Enterprise TMS tools enable enterprises to create centralized data repositories of cash and liquidity information. These repositories create visibility into enterprise-wide and business unit cash positions, usage, and forecast needs; bank balances; borrowing availability; and other liquidity resources and drivers. By yielding an enterprise-wide, holistic view of how enterprise cash and liquidity are managed, along with predictive cash forecasting capabilities, TMS tools allow treasury departments to optimize cash utilization and cost, track and manage cash settlements and transactions, manage idle cash, and strengthen treasury operational risk subsystems. TMS tools help lower bank service fee costs through reduced number of banks used and higher interest income yields through lower excess cash balances. These TMS solutions also help prevent operational errors, fraud, and execution delays related to cash transfers between banks and business units.

8.4. Strategic Capital Management

Most treasurers deal with working capital management on a day-to-day basis. Working capital management aims to optimize short-term funding needs and reduce the liquidity risk associated with the mismatch between cash inflows and outflows. However, a major

challenge for many treasurers is long-term development, that is, what is the right level of funding capacity, over and above the short-term liquidity buffer, that can be allocated to strategic investment projects? What is the best way to finance those strategic investments, with debt or equity or a combination of the two? Treasury departments often lack a clear central role in shaping a capital allocation strategy and as a consequence, they are often reduced to a short-term funding and currency management role. In this section, we discuss how treasury departments can play a more proactive role in shaping the long-term balance sheet structure, by showing senior management and boards how the financial risk profile of the firm changes as a result of management's capital allocation decisions; how capital allocation is driven by demand side factors, such as consumer preferences, targeted growth or shareholder expectations; and how this can lead to suboptimal investment decisions for the firm as a whole. A capital allocation framework can help treasurers communicate the impact of specific strategic investment decisions on the overall risk exposure of the firm, and the various risk shifts that result from idiosyncratic capital allocation decisions. The framework can also serve as a basis for a balance sheet stress testing framework, with possible risk triggers clearly identified. This would not only allow a forward-looking analysis, but assists in managing potential liquidity needs, should a specific risk trigger become binding.

8.4.1. Defining Strategic Capital

When a well-managed enterprise generates cash, it seeks the best investment return. Some of this cash is used to repay or finance short-term liabilities, the remainder might be distributed to shareholders, or it might generate low returns in temporary investment for working capital reserves and temporary assets, or it might be invested in strategic growth or acquisitions. The allocation of each dollar that may be used for a capital decision ultimately affects return and risk, as well as enterprise valuation. Use of funds decisions are made on a continuous basis, but they necessitate an enterprise-wide perspective if the risk and return from corporate decisions is to be optimized.

Traditional thinking limits the role of liquidity management to cash requirements for daily operations and other near-term financial commitments. Beyond this role, however, in a world of scarce advanced capital, liquidity can also be seen to play a strategic role as a facilitator for other growth areas. Corporate Treasury groups have optimized liquidity management systems and processes over the years, developing the treasury function into a key corporate partner. The Treasury is tasked with forecasting liquidity requirements. At the other end, treasury steers the availability of funds at the right time for planned growth or other corporate events, with the right optimization tools at their disposal, such as surplus placement and funding programs covering borrowings as well as investing.

8.4.2. Framework for Capital Allocation

Given the importance of capital strategy to enterprise value, it is surprising that CFOs often describe capital allocations as somewhat ad hoc. They emphasize the evaluation of investment opportunities in isolation, and the underwriting of risk-return tradeoffs without reference to the priorities of the business as a whole. Such a perspective may lead to the "siloing" of corporate resources, wherein individual business units act autonomously, on the assumption that they operate within independent P&Ls leading to enterprise value maximization. Such behavior may result in suboptimal capital allocation discipline across business units, and a breakdown in corporate-wide capital strategy.

Consider the capital deployment process, beginning with the definition of the firm and its mission in the context of the economic environment and expanding into business models and marketplace geography. At a more micro level, capital management involves developing business unit strategies that take into account the value chains and the determinants of competitive advantage within specific business units. Indeed, the merits of differing corporate capital management policies may relate directly to the extent of differentiation in the marketplace. Companies compete in heightened competitive environments when they serve similar market territories, have similar customer profiles among their key accounts, engage in similar product development, sales and service practices, and differ primarily in terms of price. Such markets tend to have lower margins, while the firms participating in them are more sensitive to changes in the business cycles.

8.5. Risk Management in Treasury Operations

The Treasury is an integral part of a corporation's financial structure and its primary objective is to see that there are adequate funds available to the enterprise when they are needed. These funds need to be acquired and placed in those areas where the returns achieved on the funds are the highest. The corporation will thus be engaged in a financial balancing act that is twofold in nature. On the one hand, the Treasury is concerned with liquidity, which is a short-term concern. On the other hand, the Treasury aims at return maximization which is basically a long-term concern. The Treasurer's department's task is to ensure that financial stability is achieved on an ongoing basis. Sadly for the Treasurer, this ideal is almost impossible to achieve. At the same time that the Treasurer is trying to maintain liquidity in the short term, the enterprise is also trying to plan for the future so that the returns achieved on funds employed are maximized. Since both of these activities happen at the same time, there is bound to be a contradiction. Corporations as diverse as banks, oil companies, airlines, and pharmaceuticals have all been overextended by a commonality of factors.

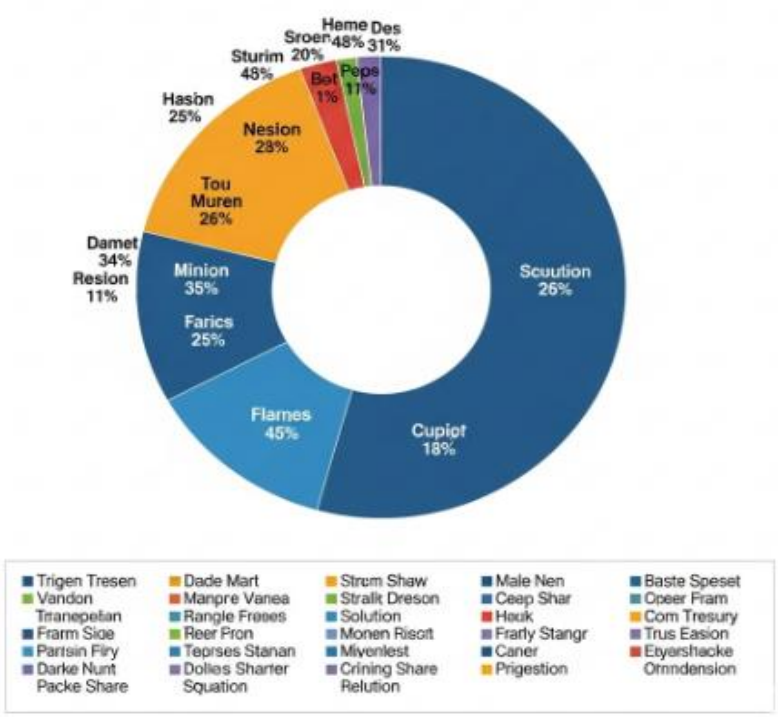

Fig : Management Solutions and Strategic Capital Optimization

Financial risk management is thus a balancing act in which the goal is to structure risks and returns in such a way that the desired trade-offs are achieved. At a general level, financial risk management aims to increase the value of the corporation through minimizing the costs of financial distress and the expected costs incurred during such financial distress. More specifically, the policies adopted for a corporation's financial risk management activities must aim towards internal stability, low volatility of earnings per share, and shareholder wealth maximization.

8.5.1. Identifying Financial Risks

A risk is broadly defined as a possibility of suffering any adverse consequences associated with the impact of an event. The impact of such an event must be measured using suitable qualitative and quantitative techniques. Applied at the process level, risks are the probability that an event will occur during a given time and the consequences of that event affecting the achievement of corresponding value-addition objectives. Financial risks affect treasury management, and hence the entire organization. These risks result from the following:

1. Modification in market conditions affecting market prices: (i) Interest rate risks, i.e., risks caused by increase/decrease in interest rates; (ii) Foreign exchange rate risk, i.e., risk of loss in value of payments due in foreign currency; (iii) Security prices, i.e., prices of listed equity and debt instruments.

2. Modification in financial soundness of the counterparty or service provider or vendor: (i) Bank credit risk, i.e., rating reduction of the borrowing bank/institution; (ii) Counterparty credit risk, i.e., deterioration in the creditworthiness of the counterparties such that they cannot meet their obligations; (iii) Settlement risks, i.e., exposure that cannot be settled due to default i.e., forced settlement due to undue exposure.

3. Modification of system variables of the organization: (i) Liquidity risk, i.e., inability to meet due payment obligations; and (ii) Cash flow forecasting risks, i.e., cash flow forecast not supported by actuals.

8.5.2. Mitigation Strategies

Corporate treasury operations deal with diverse financial risks, driven both internally and externally, that cannot be controlled or influenced. Risk management strategies, therefore, focus on the mitigation of risk impact or likelihood of occurrence. Depending upon the nature and severity of risks, companies may choose an appropriate mix of: Prevention Non-insurance Insurance Risk management strategies are effective to the extent that the governing authority has exercised appropriate judgment not only in determining the nature of possible risk exposure and severity, but also in determining the cost of mitigation action, and the extent to which the company is insured. However, financial management in the corporate treasury does seek some degree of global coordination over the corporate-insurance program. In order to deal effectively with other treasury risks, some of which are outside of the board's direct control, managing-risk techniques are relied upon. In addition to routine risk-aiding actions and the decision of determining what usable surplus is needed, corporate treasury management requires risk mitigation with respect to operational policies and the avoidance of debt-financing expenditures. The expected magnitude and timing of earning losses and liquidity losses, as well as quarterly income declarations, will determine the decision to hedge or not to hedge short-term foreign exchange exposure. Depending upon a corporation's liquidity position, net incomes will have to go down by some minimum amount in order to evaluate a tax-shifting strategy favoring debt financing as an alternative. Since timing of investment levels are also critical factors, the decision to hedge or not to hedge must also take into account the expected variability of tax-threshold earnings and the available net tax-tiers on significantly positive net earnings.

8.6. Cash Flow Forecasting Techniques

Precise cash flow forecasts enable treasurers to address short-term financial requirements efficiently and reduce excess working capital or short-term financing. Well-structured forecasts are also the basis for long-term investments, debt payments, or any other decisions that have long-term implications on a company's risk-return profile. Forecasting models vary in their abilities to represent projected inflows and outflows of cash with an increase in complexity. Simple cash flow forecasts are commonly prepared on a direct basis using projected cash inflows and outflows classified in major categories. These categories comprise cash inflows from customers, returns from investments, and other miscellaneous operating cash receipts, such as interest or dividends received; cash outflows for purchases of goods and services that generate revenues and support company operations; cash outflows for operating expenses, such as rent, advertising, and payroll, which must be paid to keep the business running; cash outflows for capital expenditures, including investment in long-lived assets such as land and buildings; financing-related cash flows; and tax outflow. More complex approaches make use of indirect models that predict cash flows as the difference between projected values of technical accounting relationships, including accounts receivables, inventories, accounts payables, net fixed assets, and liabilities. In this case, cash flows are predicted based on certain macroeconomic relationships or historical parameters, such as the sensitivity of a company's cash flow statement line items to changes in sales. These estimated historical relationships allow the forecasting of cash flows indirectly via predicting corporate sales addressing the forecast horizon. Based on a set of company-specific parameters, such as degree of operating leverage or sensitivity of working capital needs towards sales revenues, these historic relationships reduce forecasting risk while increasing the plausibility of the forecast.

8.6.1. Methods of Forecasting

Due to the temporal nature of cash flows—interfaces between the enterprise and its external stakeholders that go on for the life of the business—forecasting of cash inflows and outflows is a perennial necessity. Forecasting requires careful attention, because the survival of the firm depends on the correct estimate of net cash flows. Your treasury department should closely work with financial planners and controllers for ensuring accuracy and reducing budget variances. Owners, banks, and other creditors should be able to rely on the operating budgets prepared by companies. The methods of forecasting are the same, whatever aspect is under consideration. The accuracy of the forecast depends on detail and time, as well as events that may change things in the near future. The methods of forecasting include the following:

1. Historical method or extrapolation of trends.

2. Brief management estimates.

3. Decomposition of the aggregate forecasts.

4. Moving averages.

5. Econometric modeling.

6. Discriminant analysis.

7. Annual budget and detailed management accounting data.

8. Separate forecasts of the main aggregates.

Accept that errors will occur; some will be random in nature; others will be cyclical or affected by sub-cycle, and be correctable or explainable in the light of known current events. You should allow for small residuals and account for things in your budgets. Determine the things likely to move together and the period of the cycle using correlation and regression analysis.

8.6.2. Tools for Cash Flow Analysis

The forecasting of cash flows for medium- and long-term periods is considered a task of strategic management and requires the use of strategic models. However, for the forecasting of cash flows for short-term periods, a number of models may be used, depending on the information available and the transaction complexity. Probable portfolios of cash-flows correspond to probable columns, i.e., column vectors of probable values for cash flows. The modeling of probable columns is solved depending on the cash-flow nature, the company activities, and the forecast horizon. Probable column of cash flows is the basic element of constructing any cash-flow model for a definite period or for several years. These probable columns are often calculated on the basis of earnings of future months. Probable investments in fixed assets, the value of stocks and debtors accounts, the costs related to the production of goods, deferred expenses, various costs, power consumption, and others for the estimated months are determined. Different probability models for each column are built depending on the probability distribution of the corresponding variables and the forecast horizon. Regular factors of various cash-flow types may be considered in absolute or rational forms. The dynamics of the majority of significant factors for the estimation of cash flows is rather difficult to predict. This is why different models of dynamic dependence forecasting are developed, which take into account the problems of stochastic dependence, local relative factor dynamics, and others. Probable models of cash balances are necessary for predictions of the rating and other ratios. Models of current cash flows at different times during a year are used to assess the sufficiency of cash balances. Specific cash flows are

constructed to calculate tax payments, use of borrowed funds, and the amounts of debt repayments with interest.

8.7. Conclusion

Treasury Management Solutions need to be flexible and scalable in the face of unprecedented rates of change. While creating a unified approach is paramount, where these connected solutions address the business's strategy and treasury's goals, a clear roadmap to automation, a focus on orchestration capabilities and true partnership at all levels, are essential to optimize capital. It's also critical to balance specialized and standardized capabilities, with the specialization able to deliver on critical areas, and standardized components to streamline support and ongoing maintenance, in order to drive costs down. Operation excellence is key, but ensuring that these treasury processes truly deliver funding guidance and risk insights, to enhance how treasury partners with other stakeholders. These decision-making tools around liquidity, working capital, and risk management, can not just provide real time data as a result of clear and open lines of communication, and an agile approach to technology tools; they need to incorporate predictive analytics for budget-to-actual, risk alerts, and questions around liquidity sourcing.

Moving forward, we expect to see the treasury function further consolidated within the larger corporation—the risk transfer capabilities of this function is likely to grow further, as companies deal with an increasingly volatile world, whereby not only interest rate movements impact budgets, but also currency and commodity fluctuations present associated challenges. Additionally, people want to be heard. Treasury has to enhance stakeholder contact, more regularly sharing liquidity forecasts, and emphasizing working capital flows, not only as a treasury KRI, but a corporate KPI. By taking the initiative and building relationships, Treasury adds value and earns the company's trust. Just as with credit rating agencies, treasury should be seen as the first point of contact when a review is initiated, allowing for the fullest possible disclosures—and the chance to comment on different scenarios—before a decision is made.

8.7.1. Future Trends

In today's economy, where growth in sales and shareholder value is slower than in previous decades, management is looking for creative solutions to lift margins. Financial management efforts no longer center on visualizing the future, estimating the cost of capital, and then optimizing the risk-adjusted expected return from the physical assets that generate the company's product line. Capital efficiency is being actively pursued in a number of areas, ranging from more focused business lines to more rigorous and more

frequent pricing decisions. This slowdown in expansionary policy is reflected in many companies abandoning their focus on sales in favor of price and margin enhancement. Computer support and forecasting development in such capital-intensive industries is far in the future. Logically, however, forecasting tools should start with the determinants of demand and follow the physical process step by step toward a marketable product. Further, as machine learning becomes more accepted, available and afflicted by lower costs, companies will move to real time, frequently recalibrating an increasingly complex set of variables and transferring that knowledge to machines. Some of the major trends that will influence the future of treasury management instruments and services over the next decade and beyond include technological innovations, the rapidly evolving global economy, globalization of cash management, securitization of more products-services that will change the treasury working capital dynamics, reduced use of banks and reliance instead on the capital markets, a greater consciousness of financial risk, and an increasing emphasis and dependence on outside service providers for treasury functions.

References

Abiola-Adams, O., Azubuike, C., Sule, A. K., & Okon, R. (2025). Treasury innovation: The role of technology in enhancing strategic treasury operations and financial performance. Gulf Journal of Advance Business Research, 3(1), 157-171.

Ren, S. (2022). Optimization of Enterprise Financial Management and Decision-Making Systems Based on Big Data. Journal of Mathematics, 2022(1), 1708506.

Gerasimchuk, O. (2021). Optimization of resource potential of the enterprise on the basis of analysis of the structure of financial resources. Economics & Education, 6(2), 7-11.

Shi, W. (2021). Analyzing enterprise asset structure and profitability using cloud computing and strategic management accounting. PloS one, 16(9), e0257826.

Rauf, M. A., Shorna, S. A., Joy, Z. H., & Rahman, M. M. (2024). Data-driven transformation: Optimizing enterprise financial management and decision-making with big data. Academic Journal on Business Administration, Innovation & Sustainability, 4(2), 94-106.

Zakirova, A., Klychova, G., Doronina, S., Abasheva, O. V., & Nigmatullina, N. (2021). Improvement of methodological support of internal control in the cash management system of the enterprise. In E3S Web of Conferences (Vol. 284, p. 07011). EDP Sciences.