



DICTUMS FROM KAUTILYA'S ARTHASHASTRA FOR DIGITAL TRANSFORMATION OF TREASURY AND DIGITREASURERS



CMA (Dr.) Paritosh Basu
Senior Director (Services)
Stragility Consulting Pvt. Ltd.
Mumbai
paritosh13286@outlook.com

Verses of Chanakya in Kautilya's Arthashastra contain classical Indian knowledge and wisdom on matters of finance, wealth, and treasury management. This brief paper has examined seven of those verses which are relevant and can be adopted for corporate treasury functions and digital transformation thereof. The author has briefly examined major imperatives for digital transformation of corporate treasury functions in the light of Kautilya's dictums and provided his views on what all digital technologies can be adopted and applied for this purpose.

Synopsis

Digital transformation of treasury functions cannot be left behind when rest of the business operations across all industry sectors are being digitalised and transformed at an overwhelming speed. Banking and financial services sector is the largest beneficiary of FinTech which has direct bearings on treasury operations of any business entity.

Chanakya's Seven Dictums for Treasury

Treasury is synonymously known as 'Kosa' in Sanskrit, the origin of all Indian languages. This word is used both in narrow and wider connotations as *Artha*, money and wealth, and place of storing wealth also. One can acquire classical Indian knowledge and wisdom on wealth and financial management from the treatise of Vishnu Gupta or Chanakya, the legendary statesman and *Vedagyani* master

Image Sources: <https://www.euromoney.com/article/287ww2et2dv2x3r27b2f4/treasury/bank-strategies-crucial-to-corporate-digital-transformation>;
<https://www.euromoney.com/article/287ww2et2dv2x3r27b2f4/treasury/bank-strategies-crucial-to-corporate-digital-transformation>

strategist. During the second century AD he authored in his illustrious pen name the '*Kautilya's Arthashastra*'. In one of the verses^{1a} he wrote that, "*From wealth comes the power of the Government (Danda)*". *Artha* means wealth and *Danda* in wider sense means control, and/or law enforcement machinery. The actual period of its authorship is yet to be confirmed.

In those days of kings and kingdoms enormity of an emperor's power, over other monarchs of even distant neighbourhoods, used to be determined by emissivity of quantum of his wealth and army. Chanakya super emphasised the importance of treasury management^{1b} and "... cautioned the king that he should always keep the army and treasury under his own control." Another important dictum of Chanakya^{1c} was "*All (state) activities depend first on the Treasury. Therefore, a King shall devote his best attention to it.*" One of Chanakya's critical pearls of wisdoms^{1d} amongst many, contained the axiom that money begets money, i. e., appropriate capital allocation is important for further generation of wealth. He wrote that, "Just as elephants are needed to catch elephants, so does one need wealth to capture more wealth."

The source of wealth of a king like in present era used to be *rajasya* or king's levy collected from *prajas* or subjects, i. e., the ruled community. Chanakya's advice on matters of collecting levy^{1e} was very simple. He wrote in the said *Arthashastra* that, "... Just as one does not collect unripe fruits, he (King) shall avoid taking wealth that is not due because that will make the people angry and spoil the very sources of revenue." This piece of advice, in the ultimate sense, cautioned the monarch not to resort to unfair means while collecting revenue from subjects.

Chanakya also advised to remain prepared with saved wealth for withstanding any crisis and cautioned for maintaining secrecy about such savings. His related dictum^{1f} states that, "*As a provision against calamities, a substantial Treasury shall be built on a border of the country so that none save the king may know its location.*" All corporate houses have experienced the importance of this pearl of wisdom during and post the crisis period of Covid 19 Pandemic. In present day context the matter of secrecy tantamount to be the practice that such savings is to be maintained in safest, secured and liquid investments. Moreover, none, except the CEO should have any authority to encash such investments in dreadful period for overcoming crisis. One last quote^{1g} from the *Arthashastra* of extreme relevance for this paper is "*If receipts and expenditure are properly looked after the king will not find himself in financial difficulties.*"

Objective

If the context of a kingdom is replaced by a business

entity, every dictum of Chanakya continues to be relevant even today. Those would in most likelihood remain equally relevant in centuries to come. This is because emerging business ecosystem would continue to unfold newer versions of critical challenges and success factors. Therefore, the first objective of this paper is to set the context by understanding the major tasks and challenges of treasury operations in contemporary business environment. This will help fortify new measures for abiding by Chanakya's dictums that would facilitates discharging Treasures' duties and responsibilities more effectively and efficiently.

Thereafter the imperatives of digital transformation (DT) of treasury operations would be discussed in the backdrop of what all are globally happening on matters of adoption and applications of digital technologies to enable treasurers to meet challenges of future. When the world is moving ahead with DT across all functions and industry sectors treasury operations cannot be left behind. Else progress of business would be retarded. At the end the author has provided his own views on applications of different digital technologies for DT of different treasury functions considering Chanakya's dictums. The ultimate objective is to transform future Treasurers to DigiTreasurers so that they can effectively contribute for growth and sustainable prosperity of their respective organisations.

Treasurers' Functions and Challenges.

Two of the major drivers for progress of human civilisation are innovations and wealth a part of which as per Kautilya must also be allocated for creation of further wealth. The global financial crisis inflicted by Covid 19 Pandemic has once again reinforced the axiom that 'Profit is not a dirty word and Cash is the King'. One of the aforesaid dictums of Chanakya also got revalidated that provisions of money should be carefully preserved to fight during days of calamities. Such provisions can be generated by any business unit out profit only. But the question is how to determine the quantum of funds that should be set aside and how the same is to be dynamically changed with passage of time, movements in volume of business and changing dimension of risks and impacts thereof. Again, the same must be invested in income yielding financial assets with optimised return instead of keeping idle.

The pandemic has convincingly highlighted mission strategic importance of treasury operations like in good old days the king used to have a *Kosadhakshya* or trusted custodian and transaction manager for wealth and money in addition to a finance minister equivalent of CFO of a business entity. The need for effectively discharging their specific functions would continue to enhance with emergence of time shrouded with more and more VUCAs,

fear of unknown and unprecedentedness making it to VUCAFU. For performing all these tasks, besides their own superior business insights and value aggregation capability, they must be provided with advanced digital tools and facilities for predictive analyses and forecasting.

Treasurers' operating domain is also getting extended to the global arena as more and more entities are getting into cross-border transactions in terms of business operations, investments, borrowings, and other matters of transnationalism. The author could not trace any writing of Chanakya about cross-kingdom trading with variations in values of goods and services.

A treasurer now manages exposures to multiple currencies

across countries with the objective of minimising costs and losses due to volatilities in currency exchange rate movements and cost for hedging risks. These activities involve extensive study of foreign exchange markets including behaviour in movements of and volatilities in forex rates. For ascertaining these she/he needs to frequently study periodical trends and patterns and perform predictive analyses. For this again they must be equipped with cognitive ability based digital tools. The following graphic depicts three separate groups of treasury functions viz., Finance Risk Management, Cash Management and Funding Management from a corporate Treasurer's perspective.

Major Functions of Treasury Managers



Source:

<https://www.technofunc.com/index.php/functional-skills/treasury-management/item/treasury-management-functions>

Treasurers are also increasingly being involved in credit risk analyses of customers and advise sales and marketing team to decide with informed judgement on financial exposures by extending unsecured credits to customers. On the other hand, they have a critical role to play by paying every vendor on time which goes a long way in corporate brand and image building. Therefore, striking a critical balance for liquidity management simultaneously with investment of surplus funds with optimised returns are parts of day-to-day life of any Treasurer.

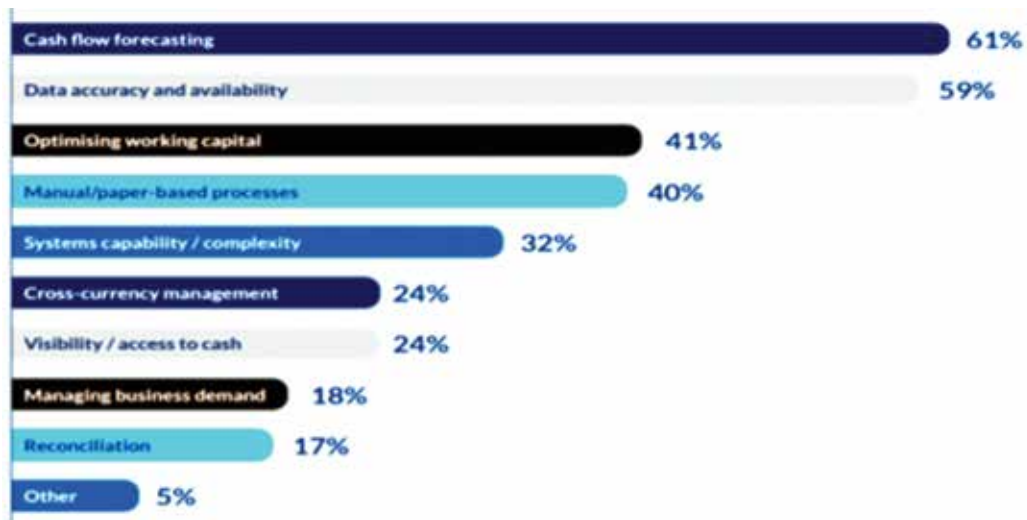
Scott Lambert, MD and Asstt. Treasurer of Cigna once said that, *“Treasury has evolved over the last five years from being largely perceived as a back-office support function to an integral value-added support function to an integrated value-added aspect of the business.”* No wonder that some Treasurers and their team members have the aspiration to

become a profit centre manager and contribute towards the ROI of the company instead of continuing to operate as a cost centre and branded as a group of parasites along with team members.

Major Challenges of Treasurers

In the light of above narratives, highlighting the mission critical importance of treasury operations, it would be useful to know some of the major research-based findings of J P Morgan as published in Euro Finance, 2020. Those observations, albeit a little dated, would remain valid and relevant when reviewed in the present-day context. The following chart indicate responses against a question, involving specific operational tasks, in which treasurers were asked to select three major challenges which are of topmost importance in their functions:

Survey Results on Challenges of Treasurers



Source:

https://www.jpmorgan.com/content/dam/jpm/treasury-services/documents/Digital-Transformation-of-Treasury_FINAL.pdf

Numbers are more than one hundred because each respondent has more than one choice. Readers would agree that most of the issues covered in line items of the above graphics can also be linked with the aforesaid seven major dictums in Kautilya's Arthashastra. According to JP Morgan's interpretation² the replies statistically charted in the above graphic indicate that, "With digital technologies so vital to modern treasury practice, treasurers regard data accuracy and availability as one of their two most important challenges. Nearly 60% cite it, ahead of traditional treasury tasks such as optimising working capital and currency management." The challenge that was prioritised by 61% of respondents as the foremost one is cash flow forecasting for which again importance of accuracy of relevant data and digital tools need not be overemphasised.

Timeline for Technology Transforming Treasury Practices



Source:

https://www.jpmorgan.com/content/dam/jpm/treasury-services/documents/Digital-Transformation-of-Treasury_FINAL.pdf

The above chart summarises the responses against a question involving the extent of importance of Artificial Intelligence and Machine Learning in treasury operations. The numbers at the bottom indicate respective sizes of respondents'

companies in terms of turnover. Readers will observe that 25% and 39% of respondents, from companies with USD < 2 Bln. turnover, are of the view that technologies would transform treasury practices within 3-5 years and 5-10 years respectively. Total of these two counts is 64% predicting a timeline of the year 2030. Replies on the same point from respondents of companies with > USD 50 Bln. turnover, are 15% and 62% respectively. Therefore, viewpoints of treasurers of companies surveyed by J P Morgan across different sizes range from 64% to 77%.

About 21% to 32% of treasurers from balance companies are also of the view that digital technologies would be beneficial but not transformative. Thus, the broader conclusion is that about 85% to 90% of respondents are of the view that AI and ML would be a part of Treasurers' life within next five to ten years. This scenario of Europe will not be much different if similar surveys are conducted in other developed and developing countries of the world and India.

It would be relevant to note the following specific comments recoded by the J P Morgan² in the said report *"One application could be ML in bank reconciliation, where the goal would be to learn from manual allocations resulting from failed transactions. Companies such as Cisco and Porsche have also investigated the current market – though the latter's Ratheiser, who is especially interested in applicability in cash flow forecasting, reports that the models it reviewed were not "totally sufficient". Fluor's Yoder believes overuse of the term 'AI' has led to confusion, however. "What I am seeing in treasury are cognitive technologies and machine learning."*

These quoted views are of 2020. The present author has reasons to believe that data science, applications of tools for analytics, and predictive study from the stable of cognitive technologies have further advanced. Digital solution designers must have perfected further in designing tools that can effectively be used for the specific purposes of day-to-day treasury operations. Moreover, such tools are flexible enough for customisation to meet specific requirements befitting individual nature of business and organisations across industry sectors. Therefore, the extent of scepticism amongst Treasurers, that persisted several years before, must have reduced by now, and any future survey, if conducted, would yield much more convincing results about utilities and purposefulness of digital transformation of treasury operations.

Imperatives for DT of Treasury Operations

Jim Robn, one of the greatest business philosophers, said that *"You are not paid for the hour, you are paid for the value you bring to the hour."* The treasurer and her/his team members are no exception to this mantra to be followed by all professionals. They deal with the most valuable assets of business entities every hour and day. Their actions and

initiatives must ensure appropriate flow of the lifeline called financial liquidity for business operations at present and remain ever prepared for future through proactive measures. They themselves also aspire to generate value additions out of their own functions and contribute for profit and profitability of the organisation. This would help them erase the tag of parasites in a cost centre. Last but not the least they have to follow all the dictums of Chanakya for risk aversions, wealth generation, safe custodianship, risk aversions, growth, and sustainability.

The biggest question is what are the key drivers for such value they can generate for their own function? Most probably that value can be generated by minimisation of value destruction, i.e., minimisation of costs of financial management like bank changes, optimisation of costs of borrowings through smart and innovative financing decisions. They can also improve their team's efficiency and effectiveness in management of exposures to foreign currency exchange risks and costs for hedging the same. For achieving all these digital technology-based computing and tools for analytics would be of immense help. The same have briefly been narrated in a subsequent section.

In the immediately following section the author has briefly narrated that every organisation, irrespective of size and nature of operations, in banking and financial services sector across the world have digitally transformed themselves. Corporate treasurers interact and conduct transactions on a daily basis with those organisations for short and long term financing, and management of liquidity, loan covenants and regulatory compliances, non-fund based facilities like Letter of Credits, Bank Guarantees, etc., and dealings on foreign currencies. Such operations are conducted, particularly by large corporates, through integrated computing facilities. One of the drivers, therefore, for digital transformation of corporate treasury operations is to cope/match with the adoption of digital technologies by their counterparts in banking sector.

Last but not the least is the ever-increasing threats from cybercriminals and their own innovative applications of advanced digital technology-based tools for hacking and spawning malwares. Corporate treasury operations, their dealing terminals and computing systems must have to be further strengthened, insulated, and protected for ensuring data privacy, security, and safety. This is a mission critical imperative both from the perspectives of stakeholders, regulatory and legal compliances, and obviating possibilities of huge losses due to ransom payments post attack by hacktivists. Digital transformation of treasury operations is, therefore, also necessary for management of such risks besides facilitating operations and value additions to corporate profit and profitability.

Digital Transformation of Banking Operations

Treasurers of contemporary Industry 4.0 era must not forget

that banking and financial services industry across the world have earnestly adopted digital technologies and transformed their systems and processes for conducting business operations and service deliveries. Digital technologies, devices like IoTs, robots and robotic process automation, and other innovative solutions specifically developed for financial sector have radically transformed banking sector both in forms and substance. This new phenomenon in the technology space is known as FinTech revolution,

A substantive part of this new phenomenon is being reckoned as ‘Neo Banking’ in which organisations without any licence for banking are complementing and supplementation banking operations in collaboration with traditional bankers. Erstwhile brick and mortar banks have also launched initiatives to digitally transform operations by either in-house adoption and innovative applications of technologies or by taking helps from startups through hackathons, acquisitions etc. Readers would get a big picture of digital transformation of banking operations from a research-based paper³ of this author jointly with Deepankar Roy. This paper brings out digital transformation of banking operations in the following five major ways, as described in table 11.2 of the paper:

- ⊙ Digital Growth Strategies,
- ⊙ Commitment for and Adoption of Digital Technologies,
- ⊙ Application of Digital Technologies in Banking

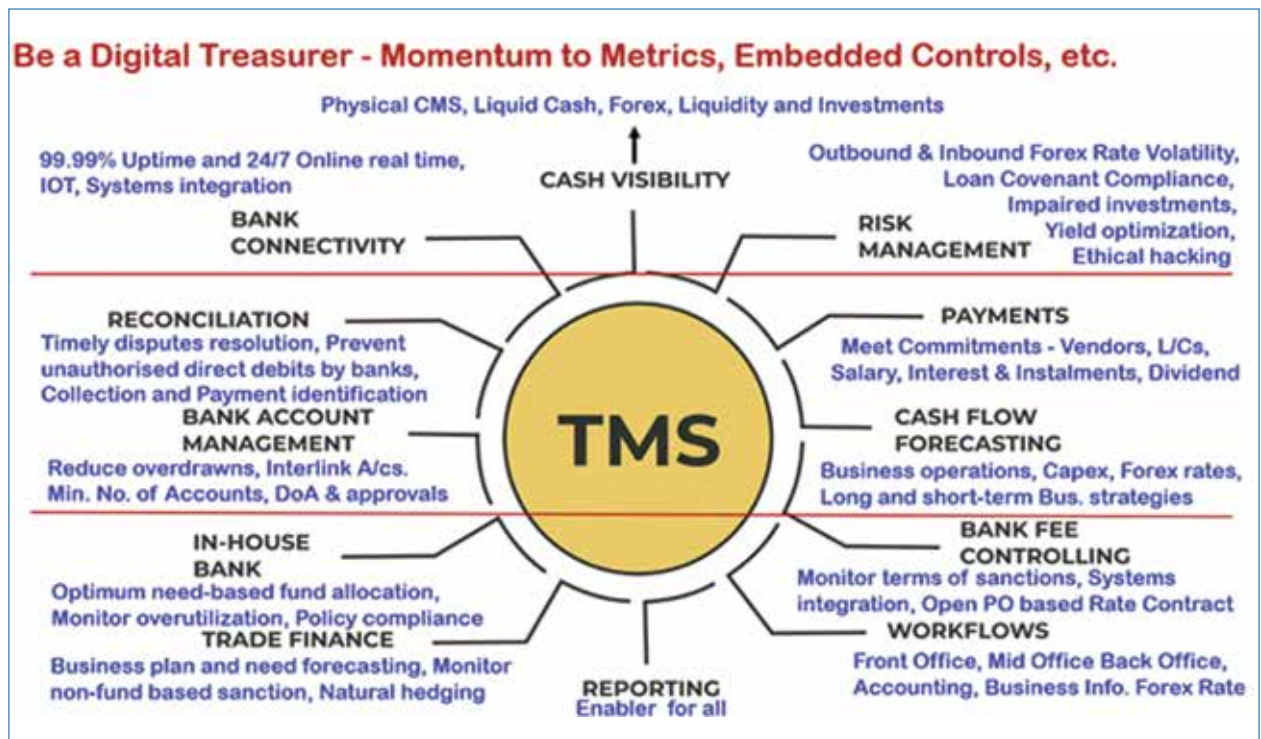
Operations,

- ⊙ Changes in Organisation Structure, and
- ⊙ Digital Ecosystem

There is no need for overemphasising the role of treasurers and importance of hardcore treasury function specifically for banking organisations. Wide adoption and large-scale applications of digital technologies have also transformed treasury of operations of banking institutions with whom corporate treasurers collaborate days in days out. Therefore, digital transformation of banking operations by itself is a driver for digital transformation for corporate treasury functions.

DT for Momentum to Metric of a DigiTreasurer

In this era of advanced digital technologies and their overwhelming applications for smart solutions building it would not be an exaggeration to call a new age treasurer as the ‘DigiTreasurer because she/he and team members now function or would soon start functioning powered by smart digital tools and platforms. If one has to co-populate using word narratives different treasury functions along with Treasury Management System (TMS) to be built with the help of digital technologies a large space would be required. The author has resorted to the following graphics to minimise that space:



Source of the Graphic with words in black font:

<https://www.nomentia.com/blog/benefits-of-a-centralized-and-digitalized-treasury-management>

In the above graphic brief narratives in blue colour fonts have been inserted by the author to indicate the purposes, functions and KRAs to be handled by each arm of the Treasury Management System (TMS). Such arms must be taken up for digital transformation, and effective management through defining frameworks with purposeful Metrics and KRA-wise KPIs to be achieved and monitored using smart digital tools. The overriding objective is to get a reasonably overarching picture of a DigiTreasurer's functional domain.

Digital Technologies, Platforms and Computing Tools

Keeping in view the above, the following is a broad summary of technology platforms, tools, and advanced ERPs systems to be adopted and applied for digital transformation of treasury operations. Adoption and application of specific items would depend upon the nature and geographical expanse of business, volume of operations, number of customers, operating requirements, and specific/differentiating nature and dimensions stakeholders' interests to be managed. Various arms of treasury operations have suitably been clubbed to avoid repetition and save space keeping in view similarities in the nature of technologies, platforms and tools to be adopted and applied.

- ⊙ **Cashflow Forecasting, Liquidity Management, Cash Visibility and Yield Optimisation on Investments:** Cognitive Technology based Tools, viz., AI, ML, Data Analytics, Data Visualization, Integration of Advanced ERP Systems, AI enabled Portals for Forecasting, Operations Planning, Budgeting and Monitoring,
- ⊙ **Forex Management, Treasury Risks Management, Loan Covenant and Regulatory Compliance:** Blockchain with advanced Smart Contracts, Digital Wallets, Cognitive Technology Tools like AI, ML, DL, BDA, Ethical Hacking, digitally enabled Forensic Tools, Scripted DoA, Tools for online real time unique transactions alarms, advanced access controls, etc.

Bibliography and Weblibliography

All the quoted websites have been accessed during September and October and November 2023.

1. *The Arthashastra written by Kautilya, edited, rearranged, translated and introduced by L. N. Rangarajan, Penguin Books India 1992. The author quoted the following references from the Arthashastra:*
 - a. Book 2, Chapter 12, Verse 37
 - b. Book 8, Chapter 2, Verse 4,
 - c. Book 2, Chapter 8, Verse 1 and 2
 - d. Book 9, Chapter 4, Verse 27
 - e. Book 5, Chapter 2, Verse 70
 - f. Book 2, Chapter 5, Verse 4
 - g. Book 5, Chapter 3, Verse 45
2. https://www.jpmorgan.com/content/dam/jpm/treasury-services/documents/Digital-Transformation-of-Treasury_FINAL.pdf
3. Paritosh Bau and Deepankar Roy, *Digital Transformation of Banking Institutions, Chapter 11 of Indian Banking and Finance Report, 2021, Edited by Partha Ray, Arindam Bandopadhyay and Sanjay Basu, Published jointly by National Institute of Bank Management Pune and Sage, pp 163 to178.*
https://www.google.co.in/books/edition/India_Banking_and_Finance_Report_2021/ux5vEAAAQBAJ?hl=en&gbpv=1&printsec=frontcover

- ⊙ **Trade Finance, Collections, Payments, and In-house Banking:** CBDC, Blockchain Platform(s), integration with third-party Platforms, Tokenisation, DeFi, Web3, Digital Wallets, Cognitive Tools, including Natural Language Processing (NLP), Robotic Process Automation (RPA), Workflow and Document Management Systems, Advanced ERP Systems, etc.
- ⊙ **Treasury Cost Optimisation and Reconciliations:** Suitable adoption and capability building selectively using the above tools depending upon the areas of operations for which cost optimizations are to be achieved and reconciliations are to be performed and disputed transactions to be settled.

The decision for digital transformation would also depend upon cost-benefit analysis and resultant impact on profit and profitability of the concerned organisation. However, exception to this monetary value-oriented consideration must be exercised in matters of risks management for which any compromise and open risk exposure policy are best advised to be avoided.

Conclusion

The subject is vast and shrouded with several dynamic market factors which treasurers must have to study, predict and pre-empt to ensure smooth functioning and minimisation of costs and losses. Prima facie one can conclude that digital transformation of treasury functions would certainly help improving efficiency, effectiveness, and multiply value additions to corporate profit and profitability. However, the subject calls for more empirical industry collaborated research and experimentations by corporates based on findings. The author would be happy to contribute for this cause so that future research work of scholars can help industry for the ultimate growth and prosperity of any country. MA