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Cyber Resilience

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Introduction

Today, information technology has become deeply entrenched as a main component of our lives, ranging from personal needs to business tasks making it very difficult to imagine life without it. As the faster, cheaper digital technologies are delivering an unbelievable array of social and economic benefits, the options for digitizing and connecting elements of our lives, are increasing rapidly, giving rise to a whole range of new risks from a variety of known and unknown sources. Therefore, business and government leaders are increasingly placing cyber security high on their agenda of issues to be addressed while pursuing digitalization of their institutions to bring about efficiency gains. To increase the benefits while minimizing the harmful effects of this constantly changing digital landscape, leaders must strive to look beyond cyber security to understand and implement cyber resilience as a strategic goal.

Cyber Security

Cyber security is the protection of systems, networks and data from cyber-attacks using different technologies, processes, and controls. Effective cyber security measures reduce the risk of cyber-attacks, while protecting the organizations and individuals from unauthorized access of systems, networks, and technologies.

With the explosive growth of the internet, so many machines were exposed to the estimated 4.66 billion users of the World Wide Web as of January 2021, providing room for hackers to test their skills in bringing down websites, stealing data, or committing fraud. This is called cybercrime.

Listed are some key statistical indicators and trends for the world's internet, mobile and social media users with the internet penetration globally, in reference to the illustration below:

- Population: the world's population stood at 7.83 billion at the start of 2021. The United Nations reports that this figure is currently growing by 1 percent per year, which means that the global total has increased by more than 80 million people since the start of 2020.

- Mobile: 5.22 billion people use a mobile phone today, equating to 66.6 percent of the world's total population. Unique mobile users have grown by 1.8 percent (93 million) since January 2020, while the total number of mobile connections has increased by 72 million (0.9 percent) to reach a total of 8.02 billion at the start of 2021.

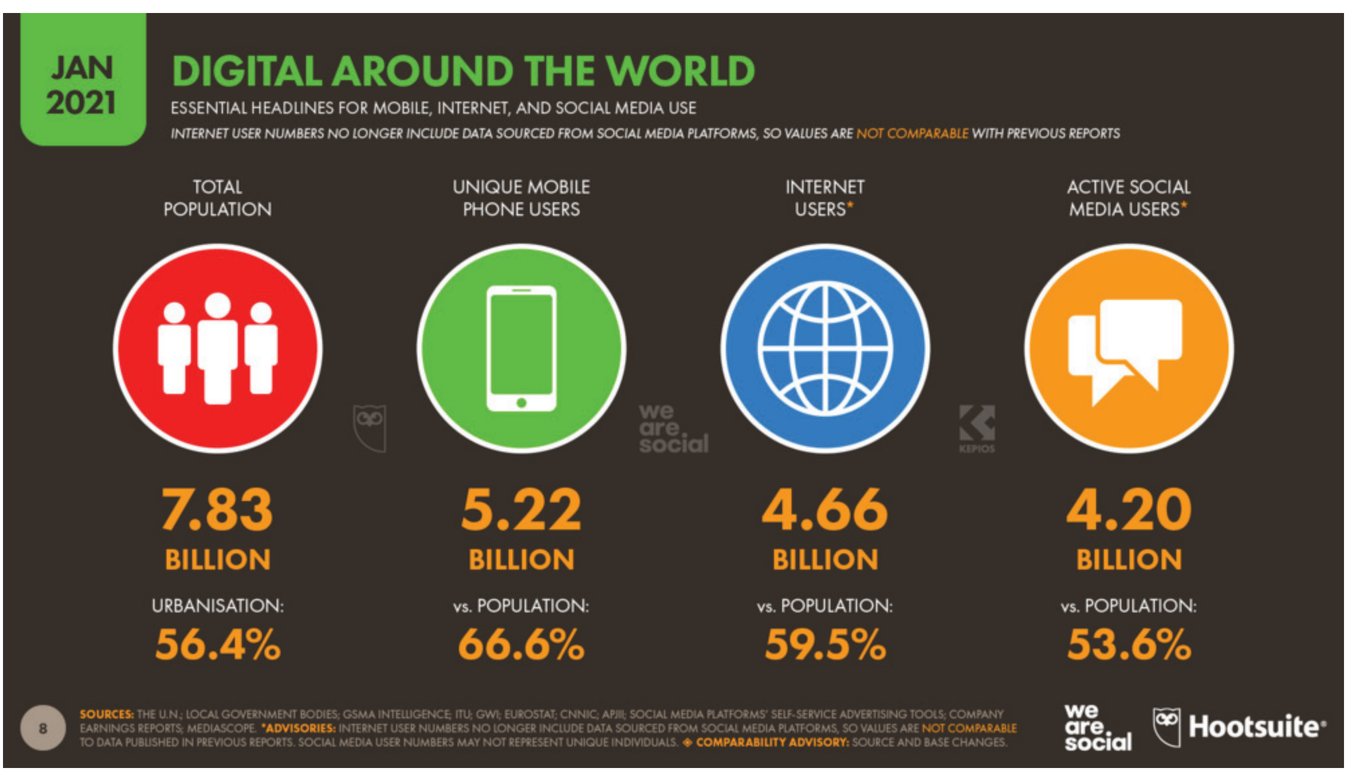
- Internet: 4.66 billion people around the world use the internet in January 2021, up by 316 million (7.3 percent) since this time last year. Global internet penetration now stands at 59.5 percent.

- Social media: there are now 4.20 billion social media users around the world. This figure has grown by 490 million over the past 12 months, delivering year-on-year growth of more than 13 percent. The number of social media users is now equivalent to more than 53 percent of the world's total population.

All the above categories of users are mostly dealing with sensitive data, personally identifiable information (PII), protected health information (PHI), personal information, intellectual property, data, and governmental and industry information systems. Therefore, it is vital to protect all categories of data from theft and damage.

Cyber Threats

A cyber or cybersecurity threat is a malicious act that seeks to damage data, steal data, or disrupt digital life in general. Cyber threats can appear in the form of ransomware, phishing, data leakages, hacking, insider threats and Advanced Persistent Threat (APT). Organizations should be aware of such cyber threats as any information stored in the systems could be a target for the hackers. Brief description about these cyber threats together with some common countermeasures are listed below.



Source: Global-digital-report-2021

Ransomware

A form of malware (malicious software), mainly delivered via malicious emails that attempts to encrypt data and then extort a ransom to release an unlock code.

Countermeasures: Make staff aware of measures on handling unsolicited emails, install and maintain good anti-virus and malware protection software, have regular software updates and keep well managed data backups with regular testing of backups.

Phishing

Gaining sensitive information while posing as a trustworthy contact. Phishing emails may look completely convincing, often with faultless wording and genuine logos.

Countermeasures: Be suspicious of unexpected emails. Make use of anti-malware software. Have spam filters turned on.

Data leakage

Unauthorized transfer of information from a computer or data center to the outside world. Data leakage can be carried out by simply mentally remembering what was seen, by physical removal of tapes, disks and reports or by any way of data hiding.

Countermeasures: Have passcode locks on mobile devices. Use encryption software when using portable storage devices. Keep an eye on mobile devices and paperwork at all the times.

Hacking

Gaining access to IT systems from outside an organization. Gain access to bank account information or credit card databases, the use of social engineering, tricking staff into revealing usernames and passwords, are some of the examples.

Countermeasures: Have network firewalls installed and proper data access security. Implement user awareness and training.

Insider threat

Leakage of data by organization employees by mistake or maliciously. The potential damage from a leak of documents cannot be underestimated.

Countermeasures: The principle of 'least privilege access' should apply to all IT systems. Control the use of portable storage devices, such as USB memory keys, portable hard drives and media players. Have access logs and monitor staff behavior – who copies what. In all these areas, alongside technology, well-developed processes, procedures and staff training is the key in protecting valuable data.

Advanced persistent threat (APT)

A long-term and targeted cyberattack in which an intruder gains access to a network and remains undetected for an extended period of time in order to monitor network activity mine highly sensitive data.

Countermeasures: Implementation of administrative controls including employee training and physical security, networking controls including automatic security check and access controlling and regular penetration testing will help to mitigate such attacks.

Cyber Resilience

Cyber resilience is the ability of an organization to recover fully from any cyber disaster. No Institution can protect themselves from cyber-attacks up to a hundred per cent level since cyber threat landscape is evolving continuously. Therefore, breaches are bound to occur over time despite the best efforts by organizations to counter such threats. In addition to increasing the strength of their cyber security measures, organizations also need to increase their resilience their ability to withstand or quickly recover from cyber events that disrupt usual business operations.

Cyber Resilience is the ability of organizations to withstand cybercrime, prepare for the possible threats and build an action plan to recover from it, if it ever hits them. It is a comprehensive strategy that aims at protecting the entire organization including its people, processes, and information from a cyber crisis.

The idea of resilience is an evaluation of what happens before, during and after a digitally networked system encounters a threat. Resilience is not event-specific: it accrues over the long term and should be included in overall business or organizational strategy. An organization or society can be considered resilient in a number of ways, but a common denominator is the inclusion of a deep understanding of risk in strategic planning.

Why resilience rather than security?

A long-term view and durability of security measures are key factors in ensuring cyber resilience. A plan that encompasses actions and outcomes before, during and after the emergence of a threat will generally be superior to a plan that only considers one instance in time. It is vital to think beyond information security to overall network resilience that ensures organizations can deal with existing risks and face new risks that will arise with developments such as artificial intelligence and the internet of things (IoTs).

In a broad view, cyber resilience and cyber security sound synonymous. The two terms are closely related, but cannot be used interchangeably.

Cyber security refers to the methods and processes of protecting business information, including identifying it and where it resides, and implementing technology and business practices that will protect it. Cyber resilience focuses on protecting the business from attacks that can potentially disrupt the entire operations. That is organization's ability to withstand or quickly recover from cyber events that disrupt usual business operations.

Cyber resilience is an integrated and more proactive approach that includes cyber security as a key element. A cyber-attack meant to steal your data can be dealt with cyber security while a cyber-attack meant to knock you offline and/or disrupt your regular business operations has to deal with cyber resilience. In simple terms this means that for cyber-attacks that target to steal your data, cyber security must be applied to handle such situation.

But for cyber-attacks that target to make an organization go offline, one must apply cyber resilience and not cyber security. Therefore, it is important that organizations develop and maintain a feasible cyber resilience strategy.

A Cyber Resilience Strategy

Almost all data driven organizations have a governance policy or a risk management framework. But looking at the huge data breaches at companies like Facebook and Equifax, organizations do not feel confident about their security measures. Since cyber resilience is really a matter of risk management, there isn't a single point at which it begins or ends. It comes from building strategy and working to ensure that the risk-transfer mechanisms are also brought to bear cyber threats.

As the size of the organization data and operations increases, risk of cyber threats increase proportionately. Businesses have to face threats like theft of sensitive data, insider breaches, poorly managed processes, and technology driven attacks. In this highly risky digital landscape, attacks can happen anytime, anywhere. A Cyber Resilience strategy can keep the organization safe from security incidents for a long term, without disturbing business operations.

While it is everyone's responsibility to cooperate in order to ensure greater cyber resilience, organizational leaders who set the strategy for an organization are ultimately responsible, and have increasingly been held accountable, for including cyber resilience in organizational strategy. In view of these reasons, cyber resilience strategy of an organization should be achieved in the following manner.

Achieving Cyber Resilience

In today's digital world, the ability to detect, prevent and recover from a cyber-attack is very important. Cyber resilience is thus the key to organizational sustainability and has to have a methodical approach. The following inter-connected domains need to be used to guide a comprehensive approach.

Identify

For a successful cyber resilience strategy, it is vital to thoroughly understand the organization's risks to systems, assets, data and capabilities. Where is all your sensitive information stored? Who are the people using confidential business information? Which devices are used to carry out sensitive processes?

Key areas:

- Understand the information and systems, through asset and network discovery and mapping
- Understand the cyber risk posture through assessments
- Identify and resolve vulnerabilities in the organization
- Make users cyber-aware through regular education on best practices
- Ensure appropriate backup and recovery strategies are in place

Protect

Once you've recognized your most critical assets and processes, a strategy must be developed to protect them from cybercrime. The main aim is to protect your infrastructure and data from malicious attack and accidental exposure. Protection of key areas people, processes, and technology are very important. This would involve a change in the security policy, stronger device encryptions, restricting unauthorized usage of external devices, training employees about the importance of cyber security and inculcating the best practices to prevent malicious activities.

Key areas:

- Assess existing defenses over advanced threats and plan improvements needed
- Conduct advanced penetration tests against Internet-based services, mobile endpoints and key internal systems
- Evaluate and implement attack detection solutions across the organization
- Ensure staff comply with security policies
- Evaluate technical monitoring systems to detect policy breaches
- Protect and govern information assets over their lifecycle, including protecting from data loss or illegal access

Detect

Apart from being proactively involved in preventing cybercrime, closely monitor your business processes, employee activities and sensitive information is vital. Early detection of fraud or malware can minimize the drastic impacts it can have on business operations. Continuous monitoring of all systems, networks and assets is essential, along with vulnerability and penetration testing. Initiatives to maintain test and improve these detection procedures should also be in place.

Key areas:

- Develop systems and processes to identify attacks, assess affected systems and ensure a timely response
- Implement network monitoring systems and correlate security events with external threats
- Conduct regular reviews of detection and response strategies
- Evaluate third-party security monitoring, advanced threat protection and incident response management services

Respond

Despite the security measures taken, organizations still could experience a security incident. It could be as minor as use of personal device by an employee for an official task, or as major as leakage of sensitive client data. Once detected, a suspicious activity of any kind must be immediately attended to, and communicated to the right individuals within the enterprise to be able to fight it effectively.

Key areas:

- Implement a Computer Security Incident Response Team and define roles and responsibilities
- Holding "tabletop exercises" like drills, discussions, and trainings, to make sure your business is prepared and protected in the event of a breach
- Manage risk by measuring and tracking your cyber resilience, including how well systems were protected during an attack
- Create a plan: outline how you intend to respond to cyber incidents
- Determine how response processes and procedures will be maintained and tested
- Co-ordinate communications response activities, and understand how analysis and mitigation activities will be performed
- Implement a system and ensure lessons learned are incorporated for future response activities

Recover

This stage involves developing and implementing the appropriate systems and plans to restore any data and services that may have been impacted during a cyber attack. It is important to plan a strategy to recover fully from cyber security events. It should include continuous improvement, and communications with the public, customers and all other stakeholders. Cyber resilience determines how well your organization can defend its main IT systems and assets from attack, and how quickly it can recover when an attack succeeds.

Challenges Ahead

Too many businesses ignoring risks

Despite the growing number of internet-based attacks against businesses, most people remain unaware of the need for effective cyber resilience. Majority of the population takes a view that [cyber security] is too hard and they don't understand it. As a result, they are either ignorant of the risks or unaware of the consequences of such breaches or unaware of the steps they need to take to boost their resilience.

Boards need to take more responsibility

There's a lot of work to be done on creating a cyber security culture. The two most important things to think about at a strategic level is the response and communications plans. Having a solid communications plan in place will have a huge effect on the future of the business. Organizations can over-focus on protection but they need to accept that all protection systems will fail, so getting the response right is critical.

Integrated approach required for security

Achieving an effective level of cyber resilience requires organizations to adopt a holistic approach to security that extends far beyond the IT department. A new approach is required to ensure security issues become embedded in all the areas of business activities. Risk should not be viewed only as a technology concern to be handled by the Chief Information Security Officer but an involvement of the Chief Risk Officers should be a must.

Personal data the most targeted by attackers

Governments and businesses willing to pass the responsibility of protecting individuals' data by themselves. Two-factor authentication in every login is important to safeguard and to ensure the authenticity of personal information. Prudent measures must be taken by individuals when sharing the personal information over social media.

We do not do enough to keep systems safe

In order to minimize the ransomware attacks, people keep their data back-up usually in the cloud and the cloud can also be attacked by ransomware. Keeping valuable data backed up in multiple locations is very important. Cryptojacking (hijacking computer's hardware in order to mine cryptocurrency) has been one of the most popular attacks in 2018 and it's evolving over ransomware. Using reputable antivirus and, an anti-malware solution that constantly scans traffic and blocks infected domains, applying regular software updates is very essential.

Internet of Things (IoT) could be most vulnerable point

When IoT devices are connected to the internet they are impossible to secure. "Convenience versus privacy and security" is a debate everyone should have with themselves before purchasing IoT devices and software. Devices should be connected to secure Wi-Fi networks. Careful attention is needed when allowing smart devices to access credit cards.

Conclusion

Any organization can be highly damaged both financially & reputationally by major cyber-attacks. Unfortunately, no silver bullet exists to prevent attacks, and breaches will occur in spite of an organization's best efforts at preparation and protection against the cyber threats. To minimize the potential damage of a cyber-attack, you must change the way you think about security. What is important is not eliminating cyber risk but creating cyber resilience as an evolving process.

To achieve cyber resilience, it is crucial for organizations to align IT and the business and encourage regular, productive discussions to identify the benefits and risks associated with a cyber resilient strategy. Effective communication across the whole organization will lead in achieving cyber resilience.

Senior management must take a more active role in establishing and supervising a cyber security program. In a cyber resilient organization, senior management makes the decisions and is ultimately responsible for compliance. As a result, these managers must be educated about the potential risks which the company faces and take responsibility for addressing the risks.

Ultimately, the organization must promote an integrated, comprehensive cyber strategy powered by people, processes, and technology. By changing the culture around digital information and moving towards a strategy that encompasses identification of threats or cyber risks, preparation, prevention, detection, response, and recovery, organizations will gain cyber resilience and the ability to respond and recover quickly from an attack.

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Transactional vs Transformational Leadership For Organizational Change Management

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1. Introduction

Technological innovation, demand for continuous improvement and dynamic global market conditions compelled organisations to accept, adopt and implement changes. Orgnisational change is critical for long term achievement and existence of the organisation. Leaders in modern organizations have been instrumental in managing organizational change, by seeing opportunity in the instabilities and emphasizing ideas over process, as they go about setting directions, aligning people, providing motivation and coaching star employees. This article briefly discusses the need for leadership in organisational change management process and analyses the characteristics of transactional and transformational leaders as change agents; in order to critically evaluate the role of these two types of leaders in organizational change management process.

2. Leaders and organizational change management process

2.1 Transactional Vs. Transformational leaders in organisational change management process

According to Bass (1985, 1990) transactional leadership outlines the leader-subordinate relationship in stable organisations. Transactional leaders have three characteristics that include contingent reward, management by exception and laissez-fair leadership. Laissez-Fair leaders refrain from decision making and give up responsibilities. Leaders with contingent reward characteristic offer and promise rewards to employees for good performance, they recognise achievements of their employees. Leaders with management by exception characteristics interfere only when performance standards are not met. According to Bass (1990), a transactional leader should have the ability to identify the needs of employees and practice an appropriate leadership style to manage the relationship.

On the other hand, transformational leadership style is appropriate for a changing and dynamic organisation. Bass (1990) identified four key characteristics for transformational leaders that include charisma, inspiration, intellectual simulation and individualised consideration. Charismatic leaders provide a vision and a mission to employees. They inculcate pride and gain respect from employees. They have excessive power and influence. They meet emotional needs of their employees and make employees believe that with extra efforts employees can achieve wonders. Attaining charisma is the key to succeed as a transformational leader. Inspirational leader sets up high expectations on performance; they express the purpose in a simple way and focus on efforts. Intellectual stimulation leaders are rational, promote intelligence and display new ways of solving problems. Leaders with individualised consideration character provide personal attention and handle employees individually. They coach and mentor needy employees who want to grow and develop for the future.

According to Bass (1982) transformational leaders have the ability to visualise required actions to face the changing situation. They are able to transmit their vision to employees and inspire them to modify the current method of doing things to suite the changing situation. They are considered as high performers by their subordinates and supervisors. The complex business simulations also produced the same result. Even growth in church attendance and church membership were found where transformational leadership is practiced. Transformational leaders maintain good relationships with their supervisors and tend to contribute more to the organisation. Employees working under transformational leaders are motivated to exert additional efforts to produce more meaningful work.

With regard to transactional leader, Bass (1990) mentioned that transactional leaders, especially management by exception kind of leaders (a style of leadership that focuses on identifying and handling cases that deviate from the norm), are less effective. Employees put up little effort when they work with transactional leaders. However, if transactional leaders provide rewards to employees, they put more effort to work. Bass (1990) conducted a study among 228 employees and 58 managers using multi-factor leadership questionnaire and found that 75 percent to 82 percent of employees under transformational managers applied extra efforts to their job, while only about 22 percent to 24 percent of employees under transactional managers applied extra efforts.

Transformational leadership style of top management is the important factor that directly (through intrinsic motivations) or indirectly (through establishing a conducive work environment for innovation and change) influences employee creativity and organisational change. Transformational leaders articulate a vision, mission and culture for the organisation. They provide intellectual stimulation and inspire employees to think differently and to adopt propagative and probing thinking process. They encourage employees to challenge their values, believes and traditions in order to find out new methods to solve problems. Most of the time, transformational leaders become the role model in initiating changes in the organisation. They believe in the capabilities of their employees and help employees to commit on long term fundamental solution rather than focusing on short term and immediate solution.

Even though transactional leaders have different characteristics, in practice they vary widely due to their personal characteristics and style. As stated by Bass (1990), Ross Perot exercised his transactional leadership through his vision, emphasis on hard work, stringent codes of ethics and quasi-military management style. Leslie Wexner converted his flamboyant lifestyle vision into reality through hard work and employee participation in decision making. Roberto Goizueta of Cocoa Cola and Roger Smith of General Motors also succeeded due to their transformational leadership qualities. On the other hand, many of the toughest leaders in Fortune's list would not have behavioural science leadership qualities. But they were able to succeed because of the transformational leadership qualities they practiced. These qualities include charisma, willingness to treat employees individually, ability to intellectually stimulate employees, ability to take calculated risk, continuous improvement in performance standards and involving employees in decision making and sharing the vision. They challenged the existing systems and brought about change to the organisational cultures.

Bass (1990) pointed out that transformational leadership can provide substantial improvement in organisations in terms of policies pertaining to recruitment, promotions, training and development and designing the organisational structure.

However, there are some criticism on transformational leaders as well. Several criticisms made by number of scholars including Hermalin's (1998), Bass (1985), Maccoby (2000) and Reich (1985) are summarised as below. Transformational leaders make the employees believe that they are following the right way and solve problem rationally. The charisma is important to influence employees but, charisma alone is not sufficient to make a person a transformational leader. Charismatic leaders admire themselves as superheroes with overwhelming powers and believe that whatever they say is correct. Transformational leaders believe that organisational performance or employee satisfaction is a result of their leadership style. However, in practice there could be so many other factors that contribute to the growth and employee satisfaction. Studies on the successful performance attributed to the dynamic leaders revealed that the success of the organisation is mainly due to economic boom. Therefore, leaders should have the characteristics of both transactional and transformational leadership styles and switch styles according to circumstances.

2.2 Organisational change management process

Organisations are required to make changes as they operate in environments that are constantly changing from time to time that they must adapt to the changing circumstances; arising from internal dynamics, external factors or as a result of human nature. (Katz & Kahn, 1978).

In order to affect successful organisational change, leaders can apply different methods to plan and implement changes in an organisation, based on the size of the organization and the level of resilience in an organization. Flood and Jackson (1991) suggested different methodologies for complex/ hard system organisations or simple/ soft system organisations. The choice of model is also dependent on the employee-relations perspective towards change as defined by unitary (all employees have shared interest for change), pluralist (divergent sub-groups will have their own interest for change) or coercive (forced or compelled change) perspectives. Generally, the hard system change model is appropriate to implement changes in an increasingly dynamic organisation, while soft system change model is more suitable for small organisations operating in a relatively stable environment.

The hard system change process involves three phases; namely, description phase, option phase and implementation phase (Bagher & Rollinson, 2010).

(a) **Description phase:** organisations identify the need and commitment for change using appropriate diagnostic techniques. They identify objectives and constraints, describe performance measures in terms of cost, savings, time and labour.

(b) **Option phase:** organisations identify range of available options and ideas for change through brainstorming, research, benchmarking and gap analysis. They sort, list and select the most suitable or some of the feasible options. They describe how the options work by using certain models, and evaluate the selected options against identified performance measures.

(c) **Implementation phase**: organisations develop implementation strategies and carry out the planned changes through a pilot run or parallel run or a big bang implementation.

However, in practice, changes are implemented through a mix of the above three approaches. Paton & McCalman (2000) stated that, in practice, the above phases and stages do not take place in a sequential order as described. There will be some overlap among stages and phases due to environmental factors or modifications to previous stages or phases.

On the other hand, there are three phases in soft system of organisational change as well. They are unfreezing, moving and refreezing (Abbas & Asghar, 2010 cited by Boston, 2000).

(a) **Unfreezing phase:** requires attitudinal and behavioural changes in employees and changes in the working environment. The leader should manage attitudes and behaviours of employees.

(b) **Moving phase:** shift the organisation to a new state, by introducing new attitudes and behaviours and new ways of doing things. The move could be incremental or radical and leaders should plan and implement suitable strategies to make it a successful move.

(c) **Refreeze phase:** leaders will stabilise changes and effectively integrate changes into the status quo.

Flood and Jackson (1991) suggested different methodologies for complex/ hard system and simple/ soft system changes. Hard system is useful to identify the need and commitment for changes, cultural and social norms that support and resist changes, to devise objectives and to evaluate the planning and implementation of changes (Abbas & Asghar, 2010). For example, Herbert (1988), as cited by Bagher & Rollinson (2010), stated that Coca-Cola is differently packaged, advertised and marketed in different countries to circumvent national cultural resistance to change. MacDonald's selling foods in the Middle East according to Islamic Belief and banks in many Muslim and Non-Muslim counties offering non-interest-based banking products are some other examples for organisations coinciding with the wider cultural and social norms to make the change management process a success. On the other hand, the hard system is not capable of identifying political and moral issues relating to fundamental changes (Bagher & Rollinson, 2010), while soft system totally ignored the political and moral issues. In order to have a successful hard system change it is important to change the attitudes and behaviours of employees in addition to the physical changes (Katz & Kahn, 1978).

3. Need for leadership in organisational change management process

Leaders are the change agents for organisations. There are a number of leadership theories that evolved over the last few decades representing different perspectives of leadership in relation to managing and changing organisations. Initially, leadership theories were based on personality and traits. Then came the behavioural theories of leadership based on Ohio State and Michigan studies. Blake and Mouton introduced the managerial grid model in 1964. Situational and contingency approaches to leadership introduced a new direction to leadership theories. Leadership gained more importance with the introduction of transactional and especially transformational leadership theories mainly due to their qualitatively different approach to motivate employees, compared to other leadership styles (Lowe, Kroeck, & Sivasubramaniam, 1996).

On the other hand, complex and dynamic environments mandated continuous changes in organisation and leadership styles. Goleman (2000) argues that best leaders are skilled at several leadership styles and switch styles according to the circumstances. Researchers and scholars believe that the role of leaders is critical to handle resistance and confusion in adopting organisational changes.

4. Conclusion

Leadership contributes to implement changes, handle resistance and manage cultural issues during organisational change management process. However, there is no single leadership style that suits all phases of organisational life. In practice, characteristics of transactional and transformational leadership styles complement each other and both leadership styles are needed for organisational change and to achieve long term sustainable growth. Therefore, a best leader should have the characteristics of both transactional and transformational leadership styles and should be able to switch styles according to the circumstances in order to accomplish a successful organisational change management process.

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How can Risk Management Contribute to Effectively Carrying out the Functions of the Central Bank[1]? The Necessity of Business Continuity Planning

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Introduction

The Central Bank's core functions are aimed at securing price stability and financial system stability. Operations carried out by the Central Bank, by way of implementing monetary policy, exchange rate policy and policies aimed at securing financial system stability including policies aimed at promoting a payments system which is efficient and reliable, must therefore continue unhindered. However, these operations involve the financial system, that is, financial institutions, financial markets, and the payment system, which are prone to risks. Accordingly, necessary steps must be taken to prevent any event which could potentially impede the central bank's ability to perform its core functions to a significant extent, and, if for some reason such events do take place, they must be controlled and their impact must be mitigated. To do so, the Central Bank must have in place an effective risk management framework.

The Central Bank faces financial risks, namely, market risk, liquidity risk and credit risk, in view of the operations it carries out. For example, the Central Bank intervenes in the foreign exchange market to combat dysfunction in the foreign exchange market while it carries out monetary operations in the money market, including repo and reverse repo transactions, outright purchases and sales of securities and SWAPs, to align monetary conditions with the monetary policy stance as well as stabilize domestic financial markets. The Central Bank also faces non-financial risks, key amongst which are operational risks. Other non-financial risks include reputational and legal risks. The Central Bank's risk management framework must ensure that these risks are managed on a continuous basis. Whilst taking these aspects of risk management by the Central Bank into consideration, this article focuses mainly on Business Continuity Management by the Central Bank.

Business Continuity Planning

A key element of the risk management framework of the Central Bank is Business Continuity Planning.

1. Refers to the typical Central Bank.

The Business Continuity Plan (BCP) is a critical component of operational risk management. The BCP is prepared to build resilience of the Central Bank so as to enable it to withstand shocks emanating from adverse events such as natural disasters, terrorism, pandemics, a sudden temporary failure of infrastructure, or disruptions to power supplies, transportation or telecommunication. Accordingly, Business Continuity Management helps enhance the resilience of the national financial system as it would help the Central Bank to maintain critical operations and services in the face of shocks, using back-up facilities at alternate sites, with the help of alternate staff trained in advance, if necessary, or resume critical operations and services in a timely manner. The BCP would prepare the Central Bank to face the consequences of events which very often have a low probability of materialising, but if they do materialise, have high potential costs. Although preparedness by way of setting up a disaster recovery (DR) site which could be used to restore operations when the primary centre used for operations becomes unavailable, enabling remote access, i.e., work from home, by providing laptop computers to critical staff, and training alternate staff, is likely to involve significant upfront costs, the benefits of mitigating risks associated with adverse events such as those mentioned above are likely to outweigh those costs.

Crisis Management Team

Adverse events such as a natural disaster, a terrorist attack, a pandemic or a sudden temporary failure of infrastructure require the management of the Central Bank to make targeted responses within a limited period of time. Hence, Business Continuity Planning would include establishing a senior crisis management team. Senior members of the management would need to be in the crisis management team given the high degree of uncertainty that is likely to prevail in such a situation and the need for making decisions speedily to limit the damaging consequences.

Managing Heightened Market Risk

A significant shock to the economy due to an adverse event such as a natural disaster, a terrorist attack or a pandemic could result in changes in risk perceptions, volatility in markets and market disruptions. Risk aversion could lead to significantly higher demand for liquidity and a corresponding increase in demand for cash. Changes in risk perception and ”flight to quality” could also result in changes in the value of financial assets and financial instruments, as demand for low risk assets increases. Hence, adverse events that cause significant shocks to the economy could lead to capital outflows from vulnerable countries. In turn, pressure could build on the exchange rate. Possible supply disruptions meanwhile could lead to price pressures. Such developments could impair the Central Bank’s ability to implement monetary policy and\or exchange rate policy. For example, in such a situation, it would be desirable to ease the monetary policy stance to support economic activity. But, as the government is likely to have to bear extra expenditures relating to health, public safety, social welfare and perhaps subsidies to some sectors of the economy in such a situation, increased government financing could lead to pressure on interest rates unless if counteracting measures are taken, e.g., obtaining foreign financial assistance.

Managing Operational Risks

An adverse event that causes the loss of or damage to infrastructure, premises or information required for the functioning of systemically important payment systems, or prevents key operational staff from attending to their roles would result in disrupting payments, clearing, and/or settlements. In the case of a pandemic, absenteeism could become a key risk factor with regard to business operations. Hence, contingency planning is critical for ensuring continued provision of financial services.

Contingency planning should encompass all aspects of operations including infrastructure (hardware and software), human resources, external and internal communication and security. While the processes involved in each of the critical operations must be clearly identified, it must be ensured that the roles and responsibilities that are critical for carrying out operations necessary for the uninterrupted functioning of systemically important payment systems are carried out. In this regard, it should be made clear to the staff how authority would be delegated or transferred if key management staff are unable to attend to their roles in an emergency situation, in order to ensure effective decision making and communication and the smooth flow of operations. Also, adopting a "Call Tree" - a layered hierarchical communication model, which specifies how specific individuals would be notified of an event causing disruptions in operations, in order to coordinate recovery, is common in Business Continuity Planning.

In managing operational risk, it is important to prioritise risks based on the impact of each risk materialising, that is, based on business impact analysis. Hence, all processes involved in the operations carried out by the Central Bank must be analysed with a view to measuring the impact of risks materialising. The priorities for recovery, including recovery time objectives for each of the processes could be determined accordingly. Alternative strategies for recovering processes would also have to be considered in that light. Requirements for recovering operational processes including planning, budgeting, and making available opportunities for rehearsing critical roles meanwhile must be fulfilled.

In the event of risks materialising, the responses made, that is, Business Continuity Management must be assessed afterwards with a view to revising and improving the Business Continuity Plan, so as to enhance organizational resilience of the Central Bank.

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LIQUIDITY MANAGEMENT STRATEGIES FOR FOREIGN RESERVE MANAGEMENT

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1. Foreign Reserve Management

The International Monetary Fund (IMF) defines foreign exchange reserves as the external stock of assets that is held by a country's monetary authority. Reserve assets comprise foreign currency balances, bank deposits in foreign currencies and holdings of other government securities such as treasury bills and bonds.

In developed economies, reserve assets consist of a small percentage of GDP, while in some emerging market economies, the reserve assets to GDP ratio is substantially higher.

Therefore, from the standpoint of preserving this national asset, the management of foreign exchange reserves is an important task for almost all central banks. Poor management of the reserves may put at risk other elements of national policy, causing severe economic damage in addition to the financial loss suffered by the reserve assets themselves. Thus, the management of official reserves has become a particularly important role of monetary authorities or central banks.

Typically, official foreign exchange reserves are held in support of a range of objectives.

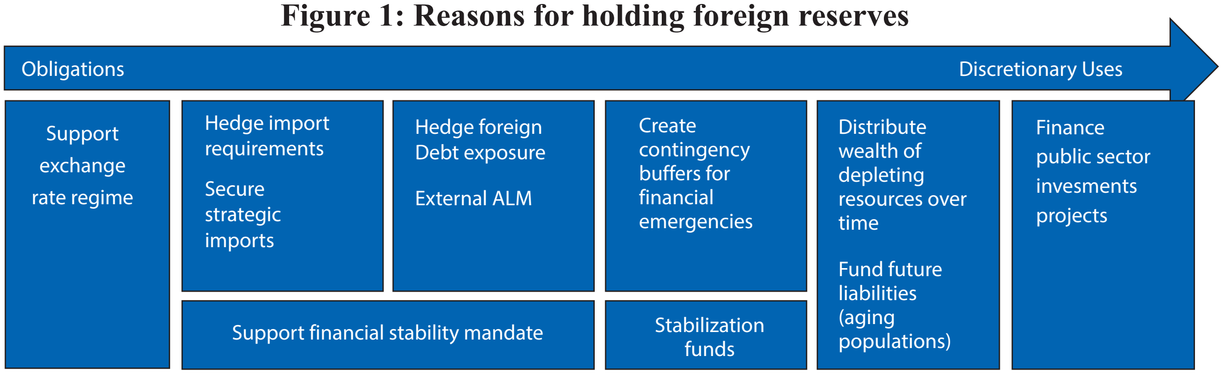
Reasons for holding Reserves

- Support and maintain confidence in the policies for monetary and exchange rate management including the capacity to intervene in support of the national or union currency.
- Limit external vulnerability by maintaining foreign currency liquidity to absorb shocks during times of crisis or when access to borrowing is curtailed.
- Provide a level of confidence to markets that a country can meet its external obligations.

- Demonstrate the backing of domestic currency by external assets.

- Assist the government in meeting its foreign exchange needs and external debt obligations; and maintain a reserve for national disasters or emergencies.

Figure 1: Reasons for holding foreign reserves



The reasons for holding foreign exchange reserves may vary, depending on the country's income level as depicted in Figure 01 above. The main reasons for holding foreign exchange reserves by middle and low-income countries are due to obligations like supporting the exchange rate stability, to hedge import costs and to secure strategic imports, to honor external debt obligations and support financial stability to ensure stable credit rating of the countries. While on the other side, high income countries have a tendency to keep foreign exchange reserves for discretionary uses such as creating a contingency and stabilization funds in the case of emergency or crisis, to fund future liabilities including any need to fund public sector investment projects through foreign exchange funding.

The cost of holding Foreign Reserves

Many people see the reserves as an asset portfolio only; that is, with no corresponding liability. This leads to much debate on the correct investment of the reserves, but there is less debate on how the assets have been acquired. This is a partial picture only, and a better approach includes a consideration of the funding of the reserves. Only in this way can the true cost of holding reserves to the authorities be ascertained.

There are three main ways to fund the reserves. They have in common, the starting point that the countries do not naturally hold assets in any currency other than their own, and that to acquire and hold foreign currency assets is a conscious decision involving foregoing domestic assets.

Accordingly, the three methods of acquiring foreign exchange assets are to borrow foreign currency formally (example would be, through a sovereign international bond issue), to borrow foreign currency against domestic currency through the foreign exchange (FX) swap market, or to buy it outright against the domestic currency.

The three methods of funding the reserves would have differing effects on the market:

The first method is borrowing, and whether it is done via a foreign currency bond issue or some other means (loan from another country or a bank), this does not affect the FX market directly at all. Since there is no transaction in the domestic currency there should be no direct effect on the exchange rate, unless the government sells the foreign currency borrowings to the Central Bank and exchanges them for local currency.

The second method is FX swapping which has timing effects only on the FX market. This is because although there is a transaction in the spot market to sell domestic currency and acquire foreign currency, there is an equal and opposite deal done for settlement in the future. So, the overall level of the exchange rate should not be unduly affected. This is true only when there is sufficient excess supply in the domestic FX market for Central Bank to purchase foreign currency, which would mainly be from trade account surplus.

The third method is purchases of foreign exchange directly against sales of domestic currency. This method can affect the exchange rate however, as the overall supply of the domestic currency to the market will be permanently increased.

The value of this analysis of the funding of the reserves is that, it enables the countries/central banks to ascertain the true cost of holding reserves. If the reserves are treated simply as an asset portfolio with no funding or corresponding liabilities, the income on the reserves looks like a net gain for the countries/central banks. An approach which takes into account the true method of funding the reserves will show that in many cases the net financial outcome from holding reserves may even be a loss, especially in those cases where comparatively low-yielding foreign assets are financed with higher yielding foreign borrowings.

The choice of which of the three methods to use to fund the reserves depends on many things, from the countries/central banks' ability to borrow, the state of the FX market, to the perception of the exchange rate. Cost will also play a significant role for those countries with the ability to choose between the three methods. Many countries will make use of all three methods at different times, depending on the relative costs of each method, the state of the market and the interaction with other policies.

2. The importance of the liquidity management in Foreign Reserves

The capital preservation and liquidity are the most important aspects of a foreign reserve portfolio, which cannot be compromised. This is simply to say whether the funds invested are available as and when required without depleting its value. Central banks in general invest funds in highly credible instruments with high levels of liquidity; even though they generate low return with a view to ensure the safety of its investments. Liquidity is a major concern for foreign reserves as this is the ability to obtain funds as and when they required at a short notice without incurring an undue cost.

There are many demands for cash that the reserves management operation has have to meet as part of the routine work of the reserves managers; these include the settlement of bond market transactions, debt servicing payments, minor foreign currency expenditure by the government, etc. There are some situations where a central bank faces a call for large amounts of cash, unexpectedly and at short notice, and possibly against a background of unstable FX markets. The most obvious example of such a situation is when the central bank is conducting intervention to defend an exchange rate, and specifically when it is trying to stop the domestic currency form falling, by selling foreign currency to support the domestic currency. Any discussion on the need for liquidity in a central bank reserves portfolio is largely shaped by the role that intervention plays in that central bank's management of its reserves.

Recent developments in the markets have led to the existence of a much wider range of methods for central banks who wish to intervene, including forward FX and options, and a much wider range of funding methods, including repos and swaps.

As a result, the decision on how much liquidity to hold, and in what form, has become a more complex one. It involves firstly, an assessment of likely future intervention and future calls on the reserves. While the past can be some guide to the future here, there is inevitably a considerable degree of uncertainty surrounding the issue, and the exercise is thus primarily a problem in probability estimation.

Different financial instruments/products that can be used to manage liquidity in managing foreign reserves are discussed below. The financial instrument that is being used by reserve managers will depend on the level of the uncertainty of liquidity requirement which need to be met by foreign reserves.

a) Treasury Bills (T Bills)

Treasury bills are domestic discount instruments, issued by governments to raise short term finance. Market quotation for T bills vary substantially. They are generally issued at a discount rate. In the European Union, T Bills are quoted in terms of the money market yield. Thus, T bills comprise sovereign risk and marked-to-market risk. In the USA, T bills are auctioned on a regular schedule, at 4-weeks, 13-weeks, 26-weeks and 52-weeks. In the UK, it is 1-month, 3-months, 6-months and 12-months. German T-bills are ("Bubills") for 6 and 12 months. T bills are negotiable instruments. US T bills are highly liquid as it has an outstanding issue size of US dollars 4.8 trillion as at end of February 2021.

Since T bills have a liquid secondary market, they can be matched for any lability falling due on a particular date, by buying the required amount of T bills to settle the liability.

In a situation where there is more leeway for the reserves portfolio to invest in the short term, it is possible to earn additional return over the secondary market yield by buying the T bill in the primary market via an auction. The limitation to investing in the primary market is, there are only fixed maturities. Here, the portfolio manager who invests foreign reserves would need to make a decision on whether to go for an additional return or liquidity.

b) Time Deposits

Time deposits are money placed in an interest-bearing bank account for a fixed maturity. The term of the deposit could be 1 day (overnight) or a fixed term. Interest is usually paid at maturity (for long term deposits it could be paid semi-annually or annually). Settlement usually happens on the same day in the US domestic market and in euro markets on spot (t+2) basis. Deposits are quoted in interest rates in financial markets and they are non- negotiable instruments, where the investor is unable to sell the deposit before maturity. Since the time deposits are non-negotiable, it is important to place the deposit to match the due date of the liability.

Due to the non-negotiable nature of the deposits, which usually offers more premium over T bills owing to the associated liquidity risk and credit risk. Since these deposits are customizable in the US market, it is easy to match the cash flows from deposits to liabilities.

c) Certificates of Deposits (CD)

A certificate which indicates that money has been deposited at the issuing depository institution for a fixed maturity and quoted as a money market yield. Term of the CD is a fixed term, usually ranging up to 12 months. Interest is usually paid as a coupon at maturity (for long term CD, every 6 months or every year) In US domestic market CDs are settled in the same day and in euro markets on spot (t+2) basis.

CDs are issued in both Negotiable and Non-negotiable forms. Negotiable CDs can be sold by the investor before maturity and non-negotiable CDs are like a deposit (must be held by the depositor until the maturity date). Large negotiable CDs are generally issued in denominations of $1 million or more, and usually in bearer form enabling CDs to be sold . Possible risks are credit, liquidity, settlement and marked-to-market.

CDs are liquid instruments compared to time deposits, which provides flexibility to reserve investor to sell the CD and obtain the liquidity to fund unexpected liabilities that may arise.

Rate quoted is the cost of borrowing cash via repo (difference between price paid at outset and price paid to repurchase at end of trade). Cash lenders also require a 'haircut,' with which the market value of securities being used as collateral is greater than the amount of funds borrowed. This haircut or the margin for risk varies between 1% to 5% in the international financial market depending on the quality of the security that is pledged as collateral.

Collateral Specification

There are two types of collateral used in Repo transactions known as general or special collateral. Features and motivation of those collateral types are;

Table 01: Collateral types and its features

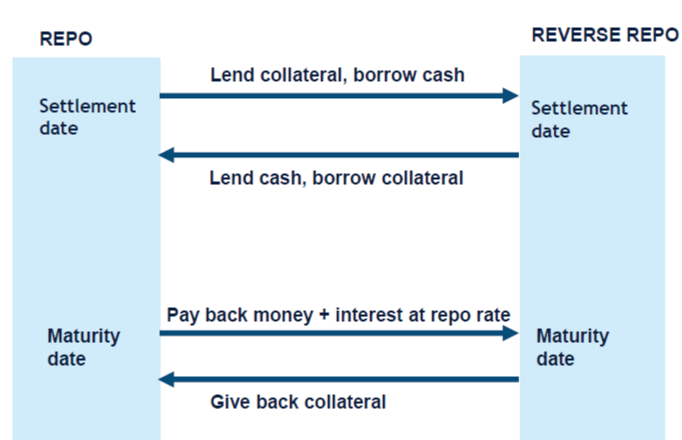
General Collateral (GC)	Specific Issue or Specials
Delivery any securities which meet relatively broad set of criteria within certain collateral types.	Delivery of certain securities, specified by issuer identification
Securities such as Treasury securities, Agency debt, Agency mortgage-backed securities (MBS).	Specific issue often conducted at rates well below GC rate, (can borrow at lower rate than with GC).
Motivation is primarily to obtain funding for securities portfolios.	Motivation is primarily to obtain specific securities rather than funding.

d) Repurchase Agreements (REPO)

A repurchase agreement (repo) is economically similar to a secured loan, though it technically involves a paired sale and future repurchase of securities.

Borrowing cash and delivering securities (cash in/ securities out) is considered a 'repo' transaction; while the other leg (cash out/securities in) is a 'reverse repo'. Most common tenor for Treasury and Agency securities is overnight, while most term trades tend to be for periods of two weeks or less.

Figure 2: Repo flow chart



Reverse Repo - Lending

Reverse Repo Lending encourages other banks to store their excess cash with a bank, who is short of funds so that the banks can earn more returns on their excess funds. It is a way of profit earning at the margin due to the sale of a particular security or cash reserve at a higher rate to the original seller.

This reverse repo can be used to manage temporary excess liquidity while earning a return in a secure way, as this involves receiving prime securities collateral for the lending, with an additional margin for market risk.

Repo - Borrowings

The repurchase agreement is a substitute method to provide liquidity to a portfolio. It is a method to prevent liquidating of a portfolio to face the unforeseen requirement of cash. It is also used as an effective cash management practice. Repo can be used to borrow at relatively lower cost due to collateral involvement, and these funds can be used to honor unforeseen liquidity requirements during periods of high market volatility, without selling fixed income securities, by abstaining from selling the fixed income securities in the market to accrue the benefit due to yield curve movement.

e) FX Swaps as a Funding Instrument

An FX swap agreement is a contract in which one party borrows one currency from, and simultaneously lends another to, the second party. Each party uses the repayment obligation to its counterparty as collateral and the amount of repayment is fixed at the FX forward rate as at the start of the contract. Thus, FX swaps can be viewed as FX risk-free collateralized borrowing/lending.

FX swaps have been employed to raise foreign currencies, both for financial institutions and their customers, including exporters and importers, as well as institutional investors who wish to hedge their positions. They are also frequently used for speculative trading, typically by combining two offsetting positions with different original maturities. FX swaps are most liquid at terms shorter than one year, but transactions with longer maturities have been increasing in recent years.

An FX swap allows to exchange your funds from one currency to another.

By swapping from currency A to currency B, the aim is to either enhance the investment return for currency A (if you are an investor in A), or/ lower your borrowing cost in currency B (if you are a borrower in B).

From an investment perspective, one might be able to enhance returns because:

Either, you get additional return from the swap, E.g., Banks prefer to hold USD over EUR around quarter-end. Then banks will sell you EUR funding cheaply in order to get your USD or, you get additional return from the foreign asset, E.g. you might have more investment options in another currency.

For example, a country (Country X) in the European region, may want their USD cash flows hedged back to EUR with a swap. Country X is not speculating whether the USD will appreciate or depreciate; it is just switching its funding from USD to EUR. Since FX swap is an instrument that helps transform your borrowing (funding)/ investment problem from one currency to another, the pricing of the swap is just a reflection of the markets' preference for the two currencies:

FX swap can be used to either for funding/ borrowing or investment purpose.

If it is for funding, if USD borrowing is expensive relative to EUR, dealers will be more incentivized to borrow USD from Country X and lend EUR to Country X, by using Fx swap

If it is for investments, If USD yields increase relative to EUR, dealers will be more incentivized to borrow USD from Country X and lend EUR Country X using Fx swap.

In FX swap strategy, if reserve manager has a currency that is relatively more expensive or generates a higher yield in their reserve portfolio, they could use the opportunity to swap it for another currency for settlement of liability; generating a gain from the relative advantage of the currency that they have in their portfolio.

f) Covered Forward Swaps (CFS)

This is an extended version of a swap where a yield enhancement strategy is induced by identifying any arbitrage opportunity. The arbitrage opportunity is captured by analyzing FX spot, forward and the interest rates and is protected against foreign currency risk.

This strategy can be used to explore the arbitrage opportunity in currency pair which would prevail due to relative scarcity of one currency compared to other. In a situation like this, by lending the expensive currency and swapping with another currency, the portfolio manager earns an additional return over the general return that they would have earned from a riskier money market product like time deposits. This strategy can be used from a period starting from one week to few months.

If this is explained through an example.

Let's assume
AUD/USD spot rate: 1.0411
Forward Points: -22.89
AUD Deposit rate: 3.00%
Dates: Jan 30th–Feb 28th, 2020 (29 days)
Amount: 80mn AUD, (~83mn USD)

Procedures:

- GET AUD deposit bid for spot 1month from an eligible counterpart: 3.00%

(The Deposit leg of the trade where you place spot 1month AUD deposit at rate 3.00%)

- GET AUD/USD spot 1month forward points: -22.89pips; AUD/USD spot rate: 1.0411 (Currency swap part of the trade where you buy and sell AUD against USD)
- Calculate implied USD yield and compare to straight USD deposit rate, decide whether it is a good arbitrage

To simplify further, we start here by selling the expensive currency at spot and buying the same in forward at an agreed rate. The currency that was bought would be placed in a deposit until the forward date. At the forward date, we get back the original currency. If the return generated from the whole process in terms of expensive currency is higher than the deposit rate, then there will be an arbitrage. This arbitrage will prevail due to scarcity of one currency in a particular market.

g) Gold Options

Gold is considered as a safe haven asset and as an inflation hedge in times of market volatility. The high volatility in the gold prices usually activate the options market with high volumes. If any central bank has a gold holding, it can be used to sell European Gold Call Options in the Over the Counter (OTC) market to earn the premium income where the strike price will be predetermined at key price resistant levels, based on a technical analysis.

The seller of the call option has an obligation to sell a specified quantity of underlying gold at a specified price (strike price) on or before a specified date as agreed. Exercising of an European Option only takes place at the maturity. Option seller is always obliged to honor the buyer's request whilst the option buyer gets the flexibility of deciding whether to exercise the option or not. Due to this flexibility, option buyer pays a price which is known as the premium. Under this strategy, the Central Bank being the seller of the European call option collects premium income initially. The strike price shall always be determined above the weighted average cost (WAC), when deciding the options by the seller to ensure that there will be a realized profit in case of an exercise of the option by the buyer. Since seller has the underlying asset under its custody, this strategy is known as a Covered Call Strategy. The seller should select the strike price of the option after analyzing the price behavior of the market meticulously.

In addition, in a situation where the market price moves above the strike price during the option tenor and moves below the strike price at the expiry, seller will again loose the opportunity to sell the gold at the desired price. However, those are the inherent features of this product as the objective of this strategy is to earn a premium income with a possibility for the option being exercised at the desired predetermined price by the buyer.

Alternatively, central banks which hold the gold can write (sell) a call option on gold holding where the strike (exercise) price is equivalent to that pre-determined price level, which should be higher than the weighted average cost (WAC). If the option is exercised, seller can sell gold at the pre-determined level. Seller will earn a premium income from this transaction at the inception. If not executed, the seller would still earn the premium income whilst the gold holding will remain unchanged.

Use of gold to raise liquidity for reserve management would be ideal for central banks which have gold holdings, because, other than the price gain from the market price movements,

Table 02: Risk and Return of Gold Options

Criteria	Risk	Return
Spot at expiry < Strike rate	-	Premium income at the inception. Unlike a fixed deposit, the premium will be earned at the beginning.
Spot at expiry > Strike rate	There will be an opportunity cost due to the option, since it's the obligation of the option seller to sell gold at the strike price although market rate exceeds that.	Option payoff is maximized on the strike price.
If volatility prevails during the tenor	There is a risk for market price to move above the strike price, during the option tenor and to move below the strike price at the expiry. Reserve Manager loses the opportunity to sell the gold above the WAC.	

there would not be any return from holding gold as an asset class in foreign reserve portfolio. As discussed in the second scenario above, instead of selling the gold outright, central banks can use call options to sell the gold while earning additional income from the gold at the time of writing the call option where the premium earned can be used for liquidity requirements.

Example: Central Bank sells a call option on gold paper holdings (assume Weighted Average Cost = USD 1580 and current market price is USD 1500) for a notional amount of 30,000 ounces at a strike price of 1600 for a period of 3 months. The premium income is USD 40,000 (Bloomberg indicative premium based on the market condition). This is the income that can be earned upfront by selling a call option, which can be used for liquidity requirements, without having to sell an asset.

Advantages of using gold options

- Seller can earn an extra return from writing call options for its existing gold holdings
- Selling a call option will not incur losses (as shown in the above payoff diagrams) as this is a covered call option product.
- Seller is not exposed to credit risk on options, as the proposal only focuses on selling options.

3. Conclusion

Considering the significant holdings of foreign reserves held by central banks today, reserve managers are challenged to optimize their asset base without compromising their ability to meet mandate liabilities.

Therefore, portfolio managers need to be cautious when selecting specific investment instruments to manage liquidity while meeting liabilities, because higher liquidity comes with compromising return to some extent as the price to be paid for very good liquidity.

The selection of appropriate investment products to manage liquidity depends on the risk appetite of the foreign reserve portfolio that is being managed, which is an important factor in deciding the suitable investment product.

This paper discussed the liquidity management strategies in reserve management that can be used to enhance the return while honoring the liabilities falling due, which need to be met from the foreign reserve of a country. Those strategies are useful in managing foreign currency reserves for meeting liquidity requirements with minimal disruption to other assets classes.

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Alleviation of Over-Indebtedness among Rural Populations through Prudent Borrowing

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Introduction

Lack of savings may compel individuals to borrow money for various activities such as constructing a house, commencing an agricultural or industrial pursuits, launching a new business venture or expanding an existing business through legally regulated formal financial institutions or from informal financial institutions and money lenders.

Although borrowed money aids individuals to improve their economic conditions and paves the way for their success, borrowings also entail repayment of loans, with interest. Hence, individuals must exercise prudence by borrowing only to meet necessities. This article highlights some issues that borrowers could encounter from excessive borrowings, beyond their repayment capacities, and recommends that borrowings should be limited to financing activities or investing in assets that help generate streams of income in the future; and should remain within their repayment capacities. It also stresses the importance of borrowing from regulated, formal financial institutions.

Some people show a tendency of increasing their continuous borrowing with extreme borrowing conditions, exceeding their income. They become debtors for the rest of their lives. This condition could be identified as indebtedness.

Uninformed Borrowing

A plethora of factors that lead individuals to borrow money beyond their capacity to honour such liabilities can be observed in society. Generally, since many rural societies remain agriculture-oriented, it is the prolonged period of time between sowing seeds and reaping the harvests that prompt people to borrow to make ends meet in the interim period. In the absence of an organized banking sector in some rural areas, the farmers are forced to approach money lenders for their borrowings, often at exorbitant interest rates and rather complex loan terms and conditions. There have also been instances of borrowing money irrationally, without an absolute necessity. They are often lured by financial institutions, individuals and organizations who try to sell goods and services for credit, employing various crafty methods to attract customers to purchase products on credit terms.

Borrowings can transpire via the means of family members, friends as well as individuals and institutions. Falling prey to over-indebtedness after borrowing from the informal sector has become an issue of much discussion within the society at present. Sometimes, low-income earners, particularly unemployed and women, tend to borrow without proper income generation plans; most often, for consumption purposes from the informal financial service providers, mainly due to the financial difficulties encountered in fulfilling their daily activities. It is observed that most of the people who recourse to borrow through such means do not own houses and tend to reside in rented properties; sometimes, compelling them to borrow to meet the payments on essential services like rent, electricity, water and daily food consumption and medical facilities. In such situations, they mostly access the informal financial market. Another reason that people living in the periphery is inclined to avoid the formal banking / financial sector is collateral requirements of banks. As it is difficult to achieve their financial necessities through the formal financial market, they tend to borrow from individuals and seek more and more finances, over time, often to pay off the interest components of the original loan. Such uncontrollable loan portfolio could lead to crisis situations; with a host of social, economic consequences. Sometimes, such over indebted people approach wealthy individuals in the informal sector who offer more funds, disregarding their inability to pay back their debt, at even higher interest rates.

Such enhanced borrowings by individuals at relatively higher interest rates, from individuals or informal institutions under conditions more destructive than the conditions attached to the originally borrowed money, would propel a vicious cycle of indebtedness or borrowing to repay debt; often referred to as a debt trap or a cycle of indebtedness.

Cycle of Indebtedness

General definition of debt suggests of a situation based on demand for finances. Generally, the majority of the younger segments of the population are just starting their journey and their levels of income tend to remain at a lower level in the beginning. Hence, they lack the ability to commence an economic activity based on their skills, talents, abilities and acquired knowledge. Furthermore, they are incapable of gaining services from the formal financial market. They tend to borrow with the confidence that their future income would be sufficient to balance out situations where expenses would override income. The confidence placed on future increments to incomes persuade them to borrow despite the perilous situations that could occur from borrowing. Furthermore, sometimes, they have entered into different, unacquainted, superfluous consumption patterns based on the need to imitate peers. Hence, a tendency to manage economic activities by depending on borrowings could be noticed among individuals due to their inability to control themselves and to fulfill the necessities and needs arising from the family.

Indebtedness and COVID-19

In the face of the COVID-19 situation prevailing at present, this state of affairs has worsened due to the heavy disruption to the household incomes. As a result, people who were tormented by debt burdens seem to be further driven to a much dire state. In a scenario of this nature, the over indebtedness that was mostly prevalent among the low-income earning groups as well as unemployed people, has dispersed to other groups of the society. Borrowings made targeting the future incomes and assets with the expectation that these incomes would augment in the future has prompted many businesses and individuals who were earning formal incomes, to face numerous social and economic crises as the pandemic has led to a reduction of income, loss of employment and acceptance of a portion of their former salaries. As a consequence, indebtedness is bound to escalate further. Hence, close attention should be paid to identify sectors or communities prone to indebtedness, and mechanisms should be developed, which would assist in alleviating the debt crisis faced by such vulnerable sectors.

Scarcity is a major factor affecting borrowing

As indicated above, the lack of sufficient money required to complete daily activities compel people to obtain short-term loans to avoid such shortfalls in funds. However, repayments related to the said loans and settlement of other obligations would not be possible due to the situations of not receiving the expected income and the increase in expenses. Consequently, further borrowings have to be made. This leads to indebtedness based on scarcity. Poverty is not just incapability in terms of money. A scarcity of resources also exists. It is not because of the inherent socio-economic background of low-income earning individuals that they are mostly incapable of arriving at rational and logical financial decisions. It's a state of mind arising due to poverty. Poverty stricken individuals resort to excessive borrowing to realize their needs and wants while they attempt to borrow under extreme conditions as their ability to obtain loans from the formal financial system is scant.

When considering indebtedness, it refers to the time gap between borrowings and the duration of the loan. It is rare to find a person who has not borrowed, at present. Most of them are short-term debtors. There are some people who settle the borrowed money on time. Some others borrow money from time to time to meet various requirements and repay the borrowed money in-line with their income levels. If everyone acts in the same manner, no discussions on indebtedness are required.

Measures needed to be taken to control over indebtedness

It is a much-discussed topic amongst the populace that stern attention should be paid to indebtedness, which is largely discussed within the society. The Government also conducts discussions regarding this crisis with private institutions, different organizations and groups of people.

It is imperative to resolve the reasons for excessive indebtedness, in-order to take the necessary measures to safeguard the individuals, who have already on the borderline and facing the consequences of excessive indebtedness in a timely manner. Else, these factors have the potential to give rise to another social crisis. Hence, focusing on the below mentioned factors would most probably aid to curb such situations.

Factors to be considered by individuals to minimize risk of indebtedness;

- Planning the income to adequately meet the requirements of individuals .
- Making effort to create permanent income earning methods.
- Resorting to save a portion of the income depending upon the income level.
- Inculcating the habits of adhering to an expenditure plan.
- Adherence to guidance provided by regulators of the financial sector without falling prey to strategic marketing efforts promoting higher benefits on borrowings.

Steps taken by authorities advocating for financial literacy include:

- Facilitating ways to obtain services through formal financial methods.
- Restraining the use of misleading advertisements for marketing purposes.
- Developing proper awareness programs on reverting attention to saving.
- Improving financial literacy as a whole.

Conclusion

Being indebted due to the plethora of reasons mentioned above has become a constant fixture of an individual's economic life at present. It is practically an impossible task to live a debt-free life, while meeting the requirements of the modern complex society. Continual over indebtedness has become the means through, which many individuals manage their finances today.

Debt extends to all the facets of our lives. Debt could be utilized for the betterment of an individual, while paving the way to behave actively as a responsible individual in the society. Hence, it is imperative to monitor the direction in which debt moves in a society.

It is important to strengthen the monitoring mechanism to control the over indebtedness. Moreover, it is important to focus on the factors such as whether financial institutions execute the policies relevant to lending responsibly, whether they employ attractive and misleading selling strategies to market financial instruments as well as the institutions using unhealthy strategies pertaining to lending, and also focus on the financial institutions contributing the most to augment the indebtedness.

Making and Managing Money

LET US BE CAREFUL WHEN USING MONEY

How you spend your money today will determine your financial stability tomorrow.

(You are the Manager of Your Own Money)

- You are the person who makes your own money.
- You need to make money from a legally recognized job or business only.
- You have to spend your wealth, time and effort to make money.
- Making money is hard. However, spending is very easy.
- There are few opportunities to earn. But there are plenty of opportunities to spend.
- So, do you spend your hard-earned money recklessly? Or according to a plan?
- Managing money means controlling money according to a plan for saving, spending and investing

SAVING MONEY

(Saving a portion of your earnings regularly will ensure your future security)

If you make a habit of saving a portion of your income on a regular basis, as time goes on, you may find yourself accumulating a large fund.

- Determine how much you can save, based on your income. As soon as you receive the income, save that portion first.
- Make saving a habit.
- Enjoy saving.

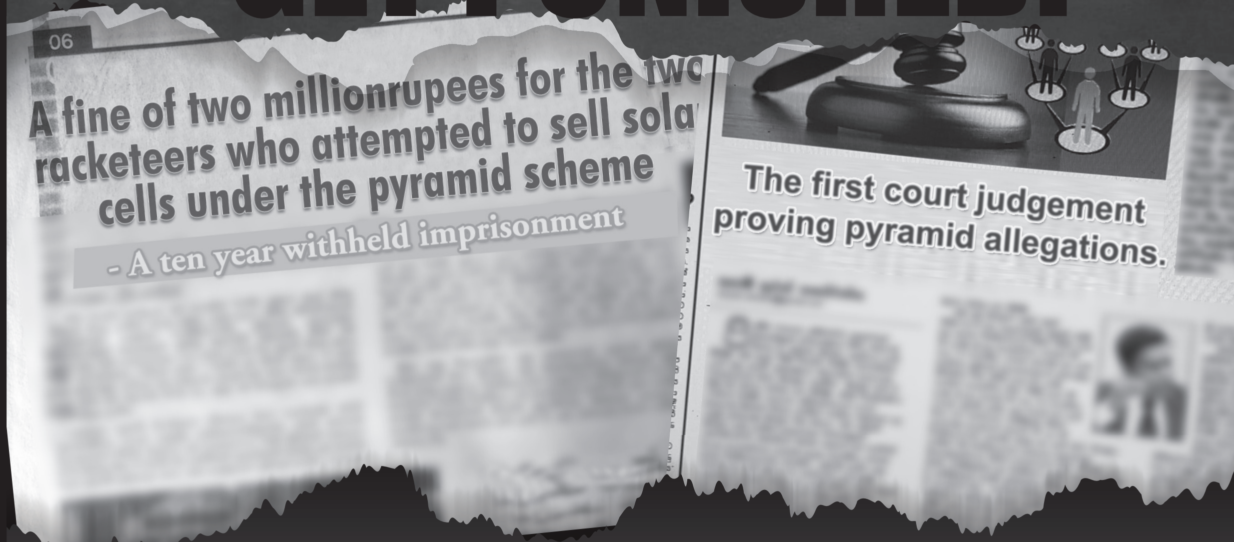
We need to be careful when saving money.

- Deposits should be made only in stable financial institutions which are authorized legally to accept deposits from public.
- Find out in advance if those institutions are able to refund your money when you requested.
- You need to choose the company that will deposit your money not been fooled by attractive advertisements.
- Do not get caught to fraudulent money scams that claim you can make a high profit in a short period of time.
- Do not be fooled by high interest rates. Be mindful of the security of the deposit.

COMMUNICATIONS DEPARTMENT

A message from the Central Bank of Sri Lanka

PYRAMID RACKETEERS GET PUNISHED!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A fine of two millionrupees for the two racketeers who attempted to sell solar cells under the pyramid scheme

- A ten year withheld imprisonment

The first court judgement proving pyramid allegations.

It is a criminal offense to initiate, introduce, advertise, publicize, maintain and invest, manage or direct prohibited pyramid schemes.

Violators face heavy fines and up to five years imprisonment.

DON'T GET CAUGHT UP IN THE PYRAMID SCHEMES.

Save your hard-earned money!
Protect Yourself!

Director
Resolution and Enforcement Department
Central Bank of Sri Lanka

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